#### PROPERTY OWNERS WITHIN 200 FEET

		ough Of Layreville SSESSOR'S OFFICE
		EET • SAYREVILLE, NJ 08872 90-7080 • FAX 732-651-3159
List of property owners within a 200' radius of the following Blocks & Lots (Gibbons):		
BLOCKS 257 257.01 257.02	LOTS 3.04 & 3.052 1, 1.01, 1.10, 4, 5 1, 1.01 & 22	5, 6 <u>-20</u> & 30.+2
BLOCK	62.02 20	Consolidated Rail Corporation Norfolk Southern — Taxation Department 650 West Peachtree Street NW Atlanta, GA 30308
BLOCK LOT	62.02 20.01	Consolidated Rail Corporation Norfolk Southern – Taxation Department 650 West Peachtree Street NW Atlanta, GA 30308
BLOCK LOT	256 2.03	Borough of Sayreville 167 Main Street Sayreville, NJ 08872
BLOCK LOTS	256 3-& 3.01	Sayreville Economic & Redevelopment Agency I 67 Main Street Sayreville, NJ 08872
BLOCK LOT	256.01 10	Middlesex County Utilities Authority P.O. Box 159 Sayreville, NJ 08872
BLOCK- LOT	257 3.06	Faith Fellowship Ministries, Inc. 2707-Main Street Sayreville, NJ 08872
BLOCK LOTS	257.01 1-03 & 3.01	Middlesex County Utilities Authority P.O. Box 159 Sayreville, NJ: 08872

	2		
	BLOCK	257.01 1.07	Middlesex County Utilities Authority P.O. Box 159 Sayreville, NJ 08872
	BLOCK LOT	257.01 30.10	Sayreville Economic & Redevelopment Agency 167 Main Street Sayreville, NJ 08872
	BLOCK LOT	257.0 F 30. H	Sayreville Economic & Redevelopment Agency I 67 Main Street Sayreville, NJ 08872
	BLOCK LOT	275.02 L	New Jersey Turnpike Authority Turnpike & Highway 18 East Brunswick, NJ 08816
	BLOCK LOT	326.01 5	C & K International, LLC 2600 Main Street Sayreville, NJ 08872
	BLOCK LOT	326.01 6	New Jersey Turnpike Authority 581 Main Street Woodbridge, NJ 07095
	GARDEN STATE PA	krkway	Garden State Parkway New Jersey Turnpike Authority P. O. Box 5042 Woodbridge, NJ 07095
□ \$\tilde{3}	EASEMENT		Borough of Sayreville 167 Main Street Sayreville, NJ 08872
	EASEMENT		Middlesex County Utilities Authority P. O. Box 159 Sayreville, NJ 08872

-3-		
This is to certify	that the preceding list of names, addresses and	block and lot numbers are
	nowledge, within a 200' radius of properties kn	
	T	
	LOTS	
BLOCKS		
257	3.04 & 3.052	
257.01	1, 1.01, 1.10, 4, 5, 6, 20 & 30.12	
257.02	1, 1.01 & 22	
		0
as shown on the	official tax map for the Borough of Sayreville.	
.m . m .	17	112.11
Dated: Februar	7 15, 2023 pose	a frugger fr
	Joséph J. Ki	20
	Tax Assess	or .
	ese records may contain information governed by	

SAYREVILLE UTILITIES LIST (2023):  NJDEP 36 West State Street	PSE&G 15 Hoes Lane
P.O. Box 42 Trenton, NJ 08625	New Brunswick, NJ 08902 4732-721-7000
	eor: 5 80 Park Plaza
Middlesex County Planning Board 75 Bayard Street—5th Floor	Newark NJ 07102
New Brunswick, NJ 08902	JCP&L c/o 1st Energy
732-745-3812	300 Madison Avenue P.O. Box 1910 = -
NJDOT	Morristown, NJ 07962-1911
David Goldberg Transportation Center	Attn: Corporate Properties
1035 Parkway Avenue	732-723-6609 or 1-800-662-3115

Sayreville, NJ

(MCUA) P.O. Box 159 2571 Main Street

Sayreville, NJ 08872-0086

315 Cold Soil Road Lawrenceville, NJ 08540

1-800-440-8475

Middlesex County Utilities Authority

NJ Natural Gas Company John Wyckoff Road 275 Centennial Avenue CN8805 Attn: Construction Department Middlesex County Landfill East Brunswick, NJ 08816-1636

Consolidated Rail Corporation 1717 Arch Street or 2001 Market Street Verizon New Jersey

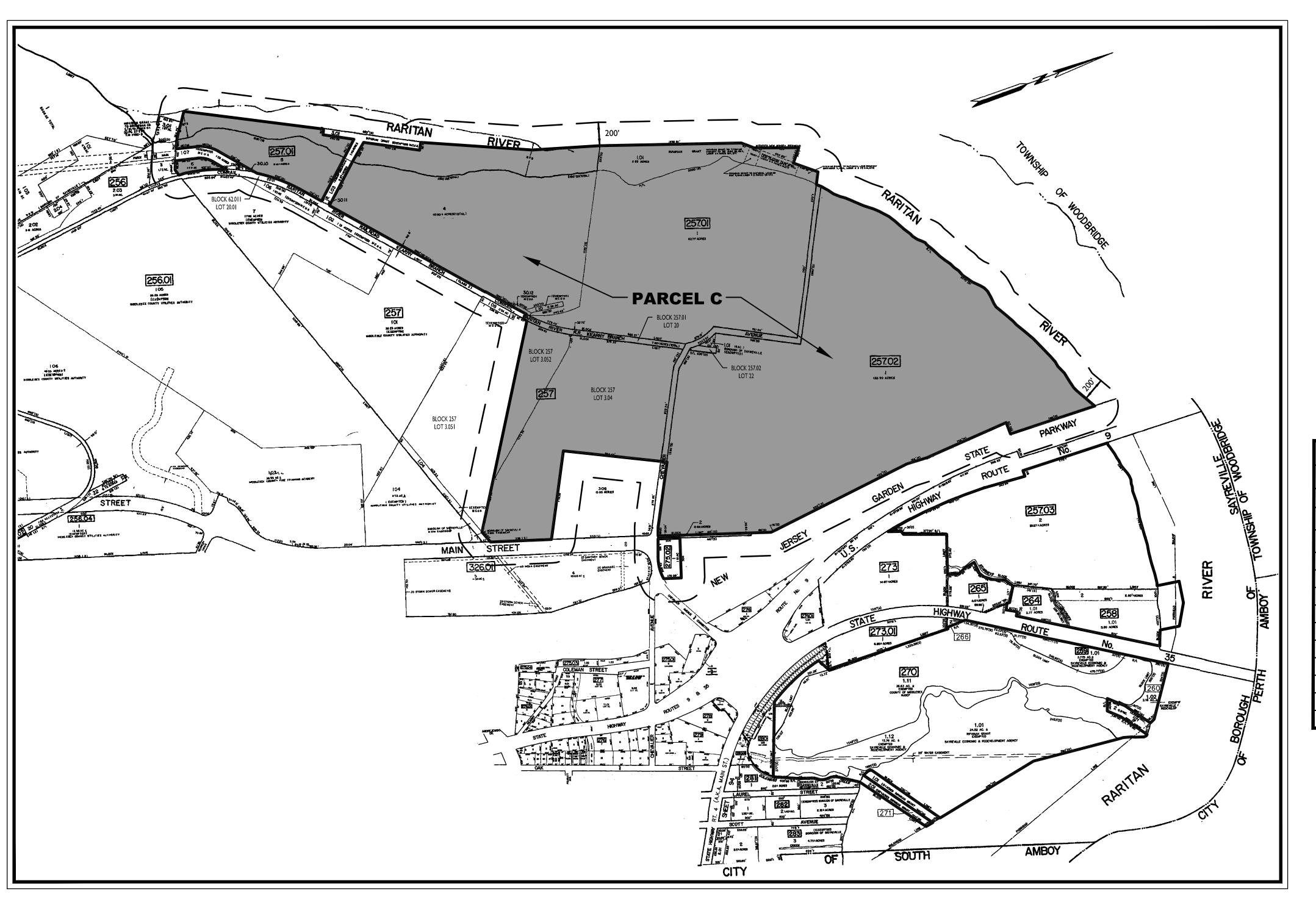
7000 Hadley Road South Plainfield, NJ 07080 908-753-0801 540 Broad Street - 20th Floor

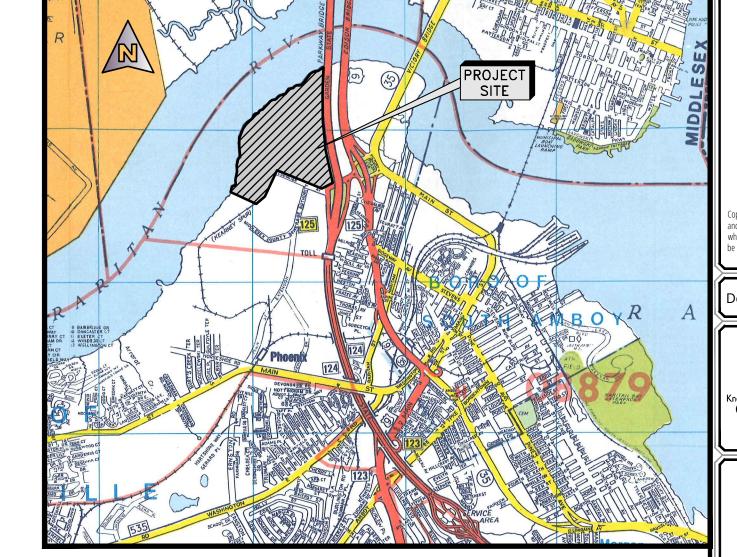
# PHASE 1A BASS PRO BUILDING SITE

# SAYREVILLE SEAPORT ASSOCIATES

BLOCK 257.02, LOT 7

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY, NEW JERSEY





**LOCATION MAP** 

APPLICANT: SAYREVILLE SEAPORT ASSOCIATES URBAN RENEWAL, L.P. 655 BROAD STREET 14th FLOOR

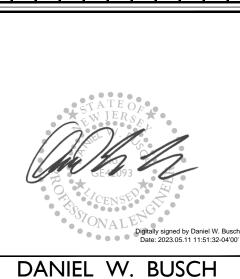
2. PARKING REQUIREMENT PER WATERFRONT REDEVELOPMENT PLAN:

NEWARK, NJ 07102

	REQUIRED	PROPOSED
PARKING		
BASS PRO (198,433 S.F.) : 4 SPACES/1,000	794	1,116 *
LOT COVERAGE		
MAXIMUM ALLOWABLE LOT COVERAGE	75%	16.61%
LOT COVERAGE SHALL BE CALCULATED BASED ON THE TO	OTAL AREA OF PARCELS	A, B AND C (418 ACRES
EXISTING IMPERVIOUS	25.0	± ACRES
PROPOSED IMPERVIOUS	44.4	2 ACRES
TOTAL IMPERVIOUS	69.4	2 ACRES

\* FORTY FIVE (45) SPACES ARE TO BE ELECTRIC VEHICLE "MAKE-READY" SPACES, OF WHICH A MINIMUM OF THREE (3) ARE TO BE ACCESSIBLE.

INDEX OF SHEETS				
SHT. No.	DESCRIPTION			
I	COVER SHEET			
2	GENERAL NOTES AND LEGEND			
3	EXISTING SITE CONSTRAINTS			
4	OVERALL DIMENSION PLAN			
5-6	DIMENSION PLANS			
7-8	UTILITY PLANS			
9-10	GRADING PLANS			
11-12	SOIL EROSION AND SEDIMENT CONTROL PLANS			
13-14	SOIL EROSION AND SEDIMENT CONTROL DETAILS			
15-16	LIGHTING PLANS			
17	LIGHTING DETAILS			
18-19	PROFILES			
20-26	CONSTRUCTION DETAILS			



NEW JERSEY PROFESSIONAL ENGINEER - LICENSE NUMBER: GE42093

PHASE 1A BASS PRO

**BUILDING SITE SAYREVILLE SEAPORT ASSOCIATES** 

BLOCK 257.02

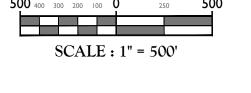
BOROUGH OF SAYREVILLE MIDDLESEX COUNTY **NEW JERSEY** 

	HOLMDEL (Headquarters
Colliers	331 Newman Springs Road Suite 203
	Red Bank, NJ 07701
gineering	Phone: 732.383.1950
Design	COLLIERS ENGINEERING & DESIGN, INC

>	DOING BUSINESS AS MASER CONSULTING					
	DATE: 4/13/	/2023	DRAWN BY:	CHECKED BY:		
Ī	R:	DRAWING NAME: C-CVER-BASS-PRO-ASP				
)(	)F	C-CAFF	R-BASS-PRO-ASF	,		

**COVER SHEET** 

**KEY & ZONING MAP** 



APPROVED BY THE PLANNING BOARD OF THE BOREGULAR MEETING OF  DATE	PROUGH OF SAYREVILLE AT THE
CHAIRMAN	DATE
SECRETARY	DATE
ENGINEER	DATE

#### GENERAL NOTES

- I. THE SUBJECT PROPERTY IS KNOWN AS PARCEL "C" NL INDUSTRIES, INC. MAIN PLANT
- 2. THE PROPERTY IS LOCATED IN THE SAYREVILLE WATERFRONT REDEVELOPMENT AREA AND CONTAINS A TOTAL TRACT AREA ± 312 ACRES. 3. THE SUBJECT PROPERTY IS BOUNDED ON THE NORTH BY THE GARDEN STATE PARKWAY. ON THE WEST BY RARITAN RIVER. ON THE EAST BY MAIN STREET AND ON THE SOUTH BY THE MIDDLESEX COUNTY UTILITIES AUTHORITY (MCUA) SEWAGE
- 4. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL APPROVALS REQUIRED HAVE BEEN OBTAINED, ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND THE DRAWINGS HAVE BEEN STAMPED "ISSUED FOR CONSTRUCTION". THIS SHALL INCLUDE APPROVAL OF ALL CATALOG CUTS, SHOP DRAWINGS AND/OR DESIGN CALCULATIONS AS REQUIRED BY THE PROJECT OWNER AND/OR MUNICIPAL ENGINEER.
- 5. THE BOUNDARY INFORMATION IS BASED ON THE FOLLOWING MAPS:

A. BOUNDARY SURVEY INFORMATION FOR THE PROPOSED RIGHT OF WAY

- DEDICATION WITHIN PARCEL 'A' SHOWN HEREON IS BASED ON A PLAN ENTITLED: "SURVEY OF GREEN ACRES PARTICIPATION WITHIN PARCEL 'A' N/F SAYREVILLE ECONOMIC & REDEVELOPMENT AGENCY", PREPARED FOR SAYREVILLE ECONOMIC & REDEVELOPMENT AGENCY, PREPARED BY CME ASSOCIATES, DATED APRIL 3, 2009. B. BOUNDARY SURVEY INFORMATION FOR PARCELS B & C TAKEN FROM A PLAN
- ENTITLED: "ALTA/ACSM SURVEY OF A PORTION OF BLOCKS 257, 257.01, 257.02, 257.03, 258 & 264 PREPARED FOR SAYREVILLE ECONOMIC REDEVELOPMENT AGENCY, SITUATED IN SAYREVILLE BOROUGH, MIDDLESEX COUNTY, NEW JERSEY", DATED MARCH 29, 2018 AND REVISED THROUGH JULY 8, 2019, PREPARED BY CME
- C. BOUNDARY SURVEY INFORMATION FOR BLOCK 257.02, LOT 7 TAKEN FROM A PLAN ENTITI FD: "FINAL PLAT MAIOR SUBDIVISION FOR RIVERTON VILLAGE PHASE I PARCEL C: BLOCK 257 - LOTS 3.04 & 3.052 BLOCK 257.01 LOTS 1, 1.01, 1.10, 4, 20 & 30.12 BLOCK 257.02 - LOTS 1, 1.01 & 22 BOROUGH OF SAYREVILLE MIDDLESEX COUNTY NEW JERSEY", DATED 5/15/19 AND REVISED THROUGH 10/20/21 PREPARED BY COLLIERS ENGINEERING & DESIGN.
- 6. THE TOPOGRAPHIC INFORMATION IS BASED ON THE FOLLOWING MAPS:
- A. A PLAN ENTITLED, "TOPOGRAPHIC SURVEY FOR SAYREVILLE SEAPORT ASSOCIATES, I P." BOROUGH OF SAYREVILLE MIDDLESEX COUNTY NEW JERSEY" PREPARED BY MASER CONSULTING, P.A. DATED FEBRUARY 9, 2009 AND REVISED THRU 5/7/19.
- B. THE TOPOGRAPHIC INFORMATION IS TAKEN FROM PHOTOGRAMMETRIC MAPPING COMPILED AND STEREO PLOTTED BY COOPER AERIAL SURVEYS CO. BASED ON AFRIAL PHOTOGRAPHS DATED ILINE ID 2016 THE VERTICAL DATLIM IS RELATIVE TO NAVD 88 AND THE HORIZONTAL DATUM IS RELATIVE TO NAD 1983, NEW JERSEY STATE PLANE COORDINATE SYSTEM.
- C. A MAP ENTITLED: "AERIAL TOPOGRAPHIC SURVEY FOR WEST SIDE, SAYREVILLE REDEVELOPMENT, BOROUGH OF SAYREVILLE, MIDDLESEX COUNTY, NEW IERSEY". DATED JANUARY 3, 2008, PREPARED BY MASER CONSULTING, P.A.
- D. THE ELEVATIONS SHOWN HEREON ARE RELATIVE TO NAVD 88 ADJUSTMENT AND ARE BASED ON NEW IERSEY GEODETIC MONUMENT NUMBER KV7136.
- 7. THE AS-BUILT INFORMATION IS BASED ON THE FOLLOWING MAPS:
- A. A PLAN ENTITLED, "SANITARY SEWER AS-BUILT PLAN QA/QC AS OF OCTOBER 26, 2022" FOR RIVERTON PHASE IA, IB, IC & ID, CONSISTING OF 6 SHEETS, PREPARED BY GLADSTONE DESIGN, INC., DATED OCTOBER 26, 2022.
- B. A PLAN ENTITLED, "STORM SEWER AS-BUILT PLAN QA/QC AS OF AUGUST 04, 2022" FOR RIVERTON PHASE IA, IB, IC & ID, CONSISTING OF 4 SHEETS, PREPARED BY GLADSTONE DESIGN, INC., DATED AUGUST 4, 2022
- C. A PLAN ENTITLED, "V ZONE WALL AS-BUILT PLAN FOR RIVERTON PHASE IA, IB, IC & ID, CONSISTING OF 2 SHEETS, PREPARED BY GLADSTONE DESIGN, INC., DATED
- D. A PLAN ENTITLED. "GABION WALL AS-BUILT PLAN FOR FOR RIVERTON PHASE IA. IB. IC & ID, CONSISTING OF I SHEET, PREPARED BY GLADSTONE DESIGN, INC., DATED
- 8. TIDAL WETLAND LINE IS PER MAP ENTITLED: "STATE OF NEW IERSEY, DEPARTMENT OF ENVIRONMENTAL PROTECTION, KEASBY REACH SOUTH, PERTH AMBOY-SOUTH AMBOY" MAP NO. 609-2100 REVISED NOVEMBER 21, 1983 AND MAP ENTITLED "STATE OF

NEW JERSEY, DEPARTMENT OF ENVIRONMENTAL PROTECTION, KEASBY REACH, PERTH

9. WETLANDS LIMITS SHOWN HEREON TAKEN FROM THE FOLLOWING MAPS:

AMBOY", MAP NO. 602-2100, REVISED NOVEMBER 21, 1983.

- A. THE LIMITS OF FRESHWATER WETLANDS FOR PARCEL 'A' SHOWN HEREON WERE VERIFIED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION WITH A LETTER OF INTERPRETATION. THE NIDEP ISSUED A FRESHWATER WETLANDS LETTER OF INTERPRETATION (LOI) (FILE NO. 1219-98-0003.1 FWLI). THE DATE OF THE LOI IS JUNE 12, 1998. THE LOI WAS REISSUED ON JUNE 12, 2003.
- THE WETLANDS WITHIN THE INTERIOR OF PARCEL A HAVE BEEN REMOVED AND A WETLAND MITIGATION PROJECT IS CURRENTLY UNDER CONSTRUCTION
- B. THE LIMITS OF FRESHWATER WETLANDS FOR PARCEL 'B' SHOWN HEREON WERE VERIFIED BY THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION WITH A LETTER OF INTERPRETATION. THE NIDEP ISSUED A FRESHWATER WETLANDS LETTER OF INTERPRETATION (LOI) (FILE NO. 1219-98-0005.1FWLI) FOR PARCEL B. THE DATE OF THE LOI IS JUNE 18, 1998. THE LOI WAS REISSUED ON JUNE 18, 2003.
- C. THE WETLANDS SHOWN ON LOT 3.04, BLOCK 257 ARE BASED ON A PLAN ENTITLED, "WETLANDS DELINEATION PLAN FOR SAYREVILLE SEAPORT ASSOCIATES, L.P.", PREPARED BY MASER CONSULTING P.A. DATED NOVEMBER 30, 2010, LAST REVISED. JULY 20, 2011 AND VERIFIED BY THE NJDEP WITH A LETTER OF INTERPRETATION (LOI) DATED AUGUST 9, 2011 (FILE NO. 1219-04-0005.5 FWW 100001).
- D. THE WETLANDS SHOWN ON LOT 3.06 (FAITH FELLOWSHIP MINISTRIES) ARE BASED ON A PLAN ENTITLED "WETLANDS DELINEATION PLAN FOR FAITH FELLOWSHIP MINISTRIES, INC.", PREPARED BY MASER CONSULTING P.A., DATED NOVEMBER 10, 2011 AND REVISED THROUGH JANUARY 26, 2012 AND VERIFIED BY NJDEP WITH AN LOI DATED FEBRUARY 29, 2012 (FILE NO. 1219-07-0003.1 FWW 110001).
- E. WETLANDS INFORMATION FOR BLOCK 257, LOT 3.052 SHOWN HEREON WAS TAKEN FROM A PLAN ENTITLED, "WETLANDS LOCATION PLAN, LOT 3.052, BLOCK 257, BOROUGH OF SAYREVILLE, MIDDLESEX COUNTY, NEW JERSEY" PREPARED BY MASER CONSULTING, P.A. DATED DECEMBER 16, 2013. VERIFIED BY N.J.D.E.P. LETTER OF INTERPRETATION DATED JUNE 24, 2014 FILE #1219-14-0001.1 FWW 140001.
- F. WETLANDS INFORMATION FOR BLOCK 257.01, LOT 7 SHOWN HEREON WAS TAKEN FROM A PLAN ENTITLED, "WETLANDS LOCATION PLAN FOR LOT 7, BLOCK 257.01, BOROUGH OF SAYREVILLE, MIDDLESEX COUNTY, NEW IERSEY" PREPARED BY MASER CONSULTING, P.A. DATED APRIL 17, 2014, VERIFIED BY N.I.D.E.P. LETTER OF INTERPRETATION DATED JULY 21, 2014 FILE #1219-14-0006.1 FWW 140001.
- G. THE REMAINDER OF THE LIMITS OF FRESHWATER WETLANDS SHOWN HEREON ARE BASED ON A PLAN ENTITLED. "WETLANDS MAPPING - NL INDUSTRIES. INC., MAIN PLANT PARCEL - BLOCK 257, LOT 3.04, BLOCK 257.01, LOTS 1, 4, 5 & 6, BLOCK 257.02. LOT I, BLOCK 275.02, LOT I - BOROUGH OF SAYREVILLE, MIDDLESEX COUNTY, NEW JERSEY", PREPARED BY BRUCE R. BLAIR OF B2A SURVSAT, DATED OCTOBER 13, 1997, REVISED DECEMBER 31, 1997. THE LIMITS WERE VERIFIED BY THE NIDEP WITH AN LOI (FILE NO. 1219-04-0005.2 FWW 050001) DATED NOVEMBER 28, 2000 AND REISSUED ON AUGUST 15, 2006.
- H. PER NJDEP LETTER DATED FEBRUARY 24, 2015, THE 'SECONDARY' AND 'TERTIARY' LAGOONS ON PARCEL 'C' ARE NON-REGULATED FEATURES.
- 10. THE FLOOD HAZARD LIMITS SHOWN HEREON WERE TAKEN FROM PRELIMINARY FLOOD INSURANCE RATE MAPS DATED JANUARY 31, 2014 MAP NUMBERS 34023C0064G, 34023C0068G, 34023C0152G AND 34023C0156G.
- II. PIERHEAD & BULKHEAD LINES AND RIPARIAN CLAIMS TAKEN FORM THE FOLLOWING: A. THE PIERHEAD & BULKHEAD LINE, THE RIPARIAN CLAIMS LINE AND THE MEAN HIGH WATER LINE INFORMATION FOR PARCEL 'A' TAKEN FROM A PLAN ENTITLED: "SURVEY OF GREEN ACRES PARTICIPATION WITHIN PARCEL 'A' N/F SAYREVILLE
- REDEVELOPMENT AGENCY, PREPARED BY CME ASSOCIATES, DATED APRIL 3, 2009. B. THE PIERHEAD & BULKHEAD LINE, THE RIPARIAN CLAIMS LINE, THE MEAN HIGH WATER LINE (MHWL) INFORMATION FOR PARCEL B & C SHOWN HEREON IS BASED ON A PLAN ENTITLED. " ALTA/ACSM SURVEY OF A PORTION OF BLOCKS 257, 257.01 257.02, 257.03, 258 & 264 PREPARED FOR SAYREVILLE ECONOMIC REDEVELOPMENT AGENCY, SITUATED IN SAYREVILLE BOROUGH, MIDDLESEX COUNTY, NEW JERSEY DATED MARCH 29, 2018 AND REVISED THROUGH JULY 8, 2019, PREPARED BY CME ASSOCIATES. MHWL ELEVATION OF 2.26' (NAVD 1988) IS BASED ON TIDAL STUDIES FOR SAYREVILLE RARITAN RIVER STALID 8531390 AND KEASBEY, RARITAN RIVER STAL ID 8531262. LOCATION OF MHWL ELEVATION INTERPOLATED FROM AERIAL

ECONOMIC & REDEVELOPMENT AGENCY", PREPARED FOR SAYREVILLE ECONOMIC &

12. THE APPLICANT HAS RECEIVED THE FOLLOWING NJDEP PERMITS FOR THE ON-GOING REMEDIATION WORK FOR PARCEL "C":

TOPOGRAPHIC MAPPING AND FIELD LOCATIONS.

- WATERFRONT DEVELOPMENT IN-WATER INDIVIDUAL PERMIT AND FLOOD HAZARD AREA INDIVIDUAL PERMIT: #1219-04-0005.4, WFD170001 AND FHA 170001 DATED SEPTEMBER 22, 2010 (EXTENDED TO 9/21/20).
- COASTAL ZONE MANAGEMENT GENERAL PERMIT #11 AND WATER QUALITY CERTIFICATE 1219-04-0005.4 C2M 180001 2/25/19 FRESHWATER WETLAND GP4: 1219-04-0005.4 FWW 180001 9/4/18.
- THE ON-GOING REMEDIATION WORK. A SOIL CONSERVATION DISTRICT REFERENCE NUMBER #0019-0091 AND RFA NIG0185825 HAVE BEEN ISSUED FOR THE ON-GOING REMEDIATION WORK.
- GENERAL PERMIT #4, 1219-10-0003.2 FWW 130001 ISSUED 5/8/2013. ARMY CORP OF ENGINEERS JURISDICTIONAL DETERMINATION NAN-2011-01356-ESP

• NATIONWIDE PERMIT NOS. 38 AND 7 HAVE BEEN ISSUED BY THE ARMY CORPS FOR

- 13. THE APPLICANT HAS OBTAINED DAM PERMIT NO. 1601 FROM THE NIDEP DIVISION OF
- DAM SAFETY AND FLOOD ENGINEERING, DATED MARCH 9, 2021, FOR CONSTRUCTION OF THE PROPOSED CLASS III DAM / WET POND.
- 14. THE FOLLOWING PERMITS HAVE BEEN OBTAINED FOR THE PROPOSED DEVELOPMENT: BOROUGH OF SAYREVILLE PLANNING BOARD MIDDLESEX COUNTY PLANNING BOARD
- NJDEP DIVISION OF WATER QUALITY RFA NIDEP BUREAU OF SAFE DRINKING WATER PERMIT

DATED 1/31/2013.

- NJDEP TREATMENT WORKS APPROVAL
- NJDEP FRESHWATER WETLANDS INDIVIDUAL PERMIT MODIFICATION MIDDLESEX COUNTY UTILITIES AUTHORITY
- SAYREVILLE ECONOMIC REDEVELOPMENT AGENCY BOROUGH OF SAYREVILLE TREE REMOVAL PERMIT
- BOROUGH OF SAYREVILLE FILL PLACEMENT AND SOIL REMOVAL PERMIT

- 15. THE SUBJECT PROPERTY WILL BE SERVED BY THE FOLLOWING UTILITY COMPANIES:
- VERIZON TELEPHONE • SAYREVILLE WATER DEPARTMENT - WATER
- SAYREVILLE SEWER DEPARTMENT SANITARY SEWER MIDDLESEX COUNTY UTILITIES AUTHORITY (MCUA) - SEWER CABLEVISION - CABLE
- PUBLIC SERVICE ELECTRIC & GAS (PSE&G) GAS • JERSEY CENTRAL POWER AND LIGHT (JCP&L) - ELECTRIC
- 16. BUILDING SIGNAGE IS IDENTIFIED ON THE INDIVIDUAL ARCHITECTURAL PLANS.
- 17. LANDSCAPING AND FREESTANDING SIGNAGE IS IDENTIFIED ON PLANS PREPARED BY

SHOPS OUTDOOR WORLD RETAIL STORE AND RESTAURANT SET SAYREVILLE. NEW

18. THE BUILDING FOOTPRINT SHOWN HEREON IS BASED ON PLANS ENTITLED, "BASS PRO

JERSEY RIVERTON SITE PLAN SUBMISSION PHASE I" PREPARED BY IDeA INSIGHT DESIGN ARCHITECTS, LLC DATED 3/6/2023. 19. COLLIERS ENGINEERING AND DESIGN HAS PERFORMED NO ENVIRONMENTAL WORK FOR THIS PROPERTY AND THIS PLAN IS NOT DEPICTING ENVIRONMENTAL CONDITIONS OR A CERTIFICATION/WARRANTY FOR THE ADEQUACY OF THE PROPOSED REMEDIATION TREATMENTS, CONTROLS AND/OR REMEDIES, WHICH ARE

BEING CONSTRUCTED. AREAS OF CONTAMINATION DEPICTED WITHIN THESE PLANS

ARE APPROXIMATE AND THE CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS

IN THE FIELD WITH ROUX ASSOCIATES, INC. AND SOVEREIGN CONSULTING, INC. PRIOR

- TO ANY EXCAVATION. 20. EXISTING AND CURRENT SITE INVESTIGATION AND REMEDIATION ACTIVITIES ARE BEING CONDUCTED BY OTHERS UNDER ISRA CASE NUMBER E88768.
- 21. APPLICANT TO RETAIN A GEOTECHNICAL ENGINEER FOR ON-SITE INSPECTIONS OF SUBGRADE CONDITIONS, EXCAVATION AND CONTROLLED FILL OF POOR SUBGRADE AREAS. AND CERTIFICATION OF ALL SUBGRADE AREAS PRIOR TO CONSTRUCTION OF ANY PAVEMENT AND UNDERGROUND UTILITIES ON THE SUBJECT SITE. A SCOPE OF SERVICES SHOULD BE PROVIDE TO THE BOROUGH ENGINEER FOR REVIEW PRIOR TO THE COMMENCEMENT OF ANY SITE IMPROVEMENT WORK.
- 22. THE DETAILS FOR NON-STANDARD STRUCTURES WILL BE PROVIDED DURING SHOP DRAWING REVIEW. THE PROCESS FOR SHOP DRAWING REVIEW WILL BE AS FOLLOWS:
- A. THE CONTRACTOR WILL SUBMIT THE SHOP DRAWING TO THE CONSTRUCTION

B. THE CONSTRUCTION MANAGER WILL RECORD THE SUBMISSION AND PROVIDE IT

- TO THE SITE ENGINEER; C. THE SITE ENGINEER WILL REVIEW AND COMMENT/APPROVE THE SUBMITTAL;
- D. UPON STAMPED APPROVAL BY THE SITE ENGINEER IT WILL BE SUBMITTED TO THE BOARD ENGINEER FOR FINAL APPROVAL.
- 24. THE CONTRACTOR SHALL BE FAMILIAR WITH THE REMEDIAL ACTION WORK PLANS FOR THE SITE AND APPLICABLE ENVIRONMENTAL REPORTS
- FOR RADIOLOGICAL RAWP. SEE REPORT ENTITLED. "COMMERCIAL RADIOLOGICAL REMEDIAL ACTION WORK PLAN FOR THE MARSULEX. ORE STORAGE, SULFUR AND CHLORIDE/RESEARCH AREAS, NATIONAL LEAD INDUSTRIES, INC. SITE, SAYREVILLE, NEW JERSEY" PREPARED BY PROFESSIONAL RADIATION CONSULTING, INC. AND ENVIRONMENTAL RESTORATION GROUP, INC., DATED NOVEMBER 13, 2009 INCLUDING ANY REVISIONS AND/OR ADDENDUMS.
- FOR CONVENTIONAL RAWP, SEE REPORT ENTITLED, "REMEDIAL INVESTIGATION REPORT/REMEDIAL ACTION SELECTION REPORT/REMEDIAL ACTION WORK PLAN FOR ACTIVE SOIL REMEDIATION-CONVENTIONAL CONSTITUENTS IN AREA 3. AOC MAR-17/21. MOORE AND NORTH DITCHES AND CERTAIN FRESHWATER WETLAND AREAS" PREPARED BY ROUX ASSOCIATES, INC., DATED OCTOBER 26, 2009 INCLUDING ANY REVISIONS AND/OR ADDENDUMS.
- REMEDIAL ACTION SELECTION/REMEDIAL DESIGN CRITERIA REPORT, NL INDUSTRIES, IN.C FACILITY, SAYREVILLE, MIDDLESEX COUNTY, NEW JERSEY ISRA CASE NO. 88768, PREPARED FOR NL INDUSTRIES, HIGHTSTOWN, NEW IERSEY.

PREPARED BY ENVIRON CORPORATION, PRINCETON, NEW JERSEY DATED JULY 1998.

- 25. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR DISTURBANCE WITHIN ANY AOC, BOTH CONVENTIONAL AND RADIOLOGICAL WHICH IS REQUIRED AS PART OF THE CONSTRUCTION SHOWN HEREON.
- 26. THE CAPPING DETAILS SHOWN HEREON HAVE BEEN OBTAINED FROM THE REPORT ENTITLED, "REMEDIAL ACTION SELECTION/REMEDIAL DESIGN CRITERIA REPORT NL INDUSTRIES, INC. FACILITY", PREPARED BY ENVIRON CORPORATION, DATED JULY 1998.
- 27. THE SITE CONTRACTOR IS RESPONSIBLE TO OBTAIN ANY NECESSARY DEWATERING PERMITS FROM THE NJDEP, SOIL CONSERVATION DISTRICT AND/OR BOROUGH REQUIRED FOR CONSTRUCTION.
- 28. EXISTING UTILITY INFORMATION SHOWN HEREON HAS BEEN COLLECTED FROM VARIOUS SOURCES AND IS NOT GUARANTEED AS TO ACCURACY OR COMPLETENESS. THE CONTRACTOR SHALL VERIFY ALL INFORMATION TO HIS SATISFACTION PRIOR TO EXCAVATION. WHERE EXISTING UTILITIES ARE TO BE CROSSED BY PROPOSED CONSTRUCTIONS, TEST PITS SHALL BE DUG BY THE CONTRACTOR PRIOR TO CONSTRUCTION TO ASCERTAIN EXISTING INVERTS, MATERIALS, AND SIZES. TEST PIT INFORMATION SHALL BE GIVEN TO THE ENGINEER PRIOR TO CONSTRUCTION TO PERMIT ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS. THE CONTRACTOR SHALL NOTIFY THE UNDER SIGNED PROFESSIONAL IMMEDIATELY IF ANY FIELD CONDITIONS ENCOUNTERED DIFFER MATERIALLY FROM THOSE REPRESENTED HEREON. SUCH CONDITIONS COULD RENDER THE DESIGNS HEREON INAPPROPRIATE OR INEFFECTIVE.
- THE OFF-SITE UTILITIES SHOWN HEREON WERE TAKEN FROM THE FOLLOWING PLANS:
- A. SANITARY SEWER FOR EXISTING 12" PVC SDR 35 GRAVITY SEWER PIPE (DRY LINE) IN CHEVALIER AVENUE COLLECTING THE AREAS ALONG KENNEDY DRIVE, 30" SANITARY SEWER FORCE MAIN ALONG WEST SIDE OF MAIN STREET EXTENSION, 16" DIP CEMENT LINED WATER MAIN ALONG EAST SIDE OF MAIN STREET EXTENSION, 16" WATER MAIN ON SOUTH SIDE OF CHEVALIER AVENUE FROM THE PLAN ENTITLED "WATER, STORM AND SANITARY UTILITY AS-BUILT PLAN FOR FAITH FELLOWSHIP MINISTRIES WORLD OUTREACH CENTER, BLOCK 257, LOT 3.03, BOROUGH OF SAYREVILLE, MIDDLESEX COUNTY, NJ", PREPARED BY KURTZ ENGINEERS, PLANNERS, LAND SURVEYORS ORIGINALLY DATED 5-23-02, REVISED THRU 2-14-06 AND SIGNED BY WILLIAM M. KURTZ, PE, LS, PP.
- 29. CONTRACTOR RESPONSIBLE FOR CONTACTING AND COORDINATING WITH THE OWNER AND OPERATOR (PRAXAIR) OF THE ACTIVE OXYGEN AND NITROGEN GAS PIPE LINES WHICH RUN THROUGH THE SITE AND WITHIN THE AREA OF WORK.
- 30. ALL STRUCTURES, CONCRETE PADS, BURIED PIPE AND UTILITIES ENCOUNTERED WITHIN THE CONSTRUCTION LIMITS SHALL BE REMOVED (UNLESS NOTED OTHERWISE) AND DISPOSED OF IN ACCORDANCE WITH THE MATERIAL HANDLING PROVISIONS CONTAINED WITHIN THE RAWP.
- 31. CONTRACTOR IS RESPONSIBLE TO ENSURE NO CONTAMINATED MATERIAL OR WATER IS DISCHARGED FROM THE SITE, INCLUDING AS A RESULT OF CONSTRUCTION ACTIVITIES, STORM EVENTS, TIDAL EVENTS, ETC.
- 32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARATION AND SUBMISSION OF CATALOG CUTS, SHOP DRAWINGS AND/OR DESIGN CALCULATIONS FOR APPROVAL BY THE MUNICIPAL ENGINEER.
- 33. STORM SEWERS 60" AND LESS SHALL BE ADS N-12 HIGH PERFORMANCE POLYPROPYLENE PIPE OR ADS SANITIE HP PIPE AS NOTED ON THE PLAN. PIPES LARGER THAN 60" SHALL BE DUROMAXX OR APPROVED EQUAL. PROPER PIPE COVERAGE SHALL BE MAINTAINED DURING ALL PHASES OF CONSTRUCTION. PIPE LENGTHS SHOWN HEREON ARE FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
- ALL STORMWATER STRUCTURES TO BE INSTALLED SATISFYING ASSHTO H-20 LOADING
- GROUNDWATER ELEVATIONS, SOIL CONDITIONS AND OVERALL GEOTECHNICAL PROPERTIES VARY THROUGHOUT THE SITE. CONTRACTOR TO PROVIDE PIPE AND STRUCTURE STABILIZATION WHEN THESE CONDITIONS ARE ENCOUNTERED DURING CONSTRUCTION. CONTRACTOR TO FOLLOW ALL PIPE MANUFACTURE SPECIFICATIONS.
- 34. WATER SERVICE IS TO BE PROVIDED FROM (2) CONNECTIONS TO THE EXISTING 16" WATER MAIN ON THE EAST SIDE OF MAIN STREET EXTENSION. A SECOND 16" TRANSMISSION WATER MAIN THAT SERVICED NATIONAL LEAD PROPERTY IS KNOWN TO EXIST WITHIN CHEVALIER AVENUE BUT HAS SINCE BEEN ABANDONED. CONTRACTOR TO LEAVE ABANDONED 16" WATER MAIN IN PLACE NO CONNECTIONS PROPOSED TO THIS WATER MAIN. PROPOSED WATER MAIN EXTENSIONS AND FIRE HYDRANT LOCATIONS ARE SUBJECT TO MUNICIPAL REVIEW AND APPROVAL, ACCORDING TO THE NEW IERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS. AMERICAN WATERWORKS ASSOCIATION STANDARDS AND BOROUGH OF SAYREVILLE REGULATIONS. 8" AND 10" WATER MAIN PIPE MATERIAL SHALL BE C900 PVC PIPE MADE FROM 12454 COMPOUND PER ASTM D1784 IN ACCORDANCE WITH THE DIMENSION, CHEMICAL, AND PHYSICAL REQUIREMENTS OF AWWA C900 FOR POTABLE WATER PIPE. THE WATER MAIN PIPE SHALL BE MANUFACTURED FROM NATIONAL SANITATION FOUNDATION (NSF) APPROVED COMPOUNDS AND MEET THE REQUIREMENTS OF ANSI/NSF 61 "DRINKING WATER SYSTEM COMPONENTS - HEALTH EFFECTS". GASKETED JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D 3139 -"STANDARD SPECIFICATIONS FOR PLASTIC PRESSURE PIPES USING FLASTOMERIC SEALS" AND ASTM F477 - "STANDARD FOR ELASTOMER SEALS (GASKETS) FOR JOINING PLASTIC PIPE. 16" TRANSMISSION WATER MAIN SHALL BE C905 PIPE MADE FROM 12454 COMPOUND PER ASTM D1784. ALL WATER MAINS SHALL BE INSTALLED TO PROVIDE A MINIMUM 4 FEET OF COVER OVER THE TOP OF PIPE TO PROPOSED GRADE EXCEPT

WHERE SHALLOWER DEPTHS ARE PERMITTED BY THE BOROUGH.

- 35. SANITARY SEWER SERVICE SHALL BE PROVIDED BY A GRAVITY SEWER CONNECTION TO AN ONSITE PLIMP STATION WHICH IN TURN IS CONNECTED BY A FORCE MAIN DIRECTLY TO THE MIDDLESEX COUNTY UTILITY AUTHORITY TREATMENT PLANT. ONSITE GRAVITY SEWER PIPE MATERIAL SHALL BE PVC SDR-35. FOR DEPTHS LESS THAN 20 FFET AND SDR-26 FOR PIPES DEEPER THAN 20 FFET. THE FORCE MAIN SHALL BE PVC SDR-21. SEWER LINES, LATERALS, SHALL BE INSTALLED TO PROVIDE A MINIMUM 3 FEET OF COVER FROM THE TOP OF PIPE TO PROPOSED GRADE EXCEPT WHERE SHALLOWER DEPTHS ARE PERMITTED BY THE MUNICIPALITY OR UTILITY AUTHORITY. GRAVITY SEWER PIPE TO BE CONSTRUCTED IN ACCORDANCE WITH PIPE MATERIAL SPECIFICATIONS OUTLINED IN N.J.A.C. 5:21-6.2(C)6. SANITARY SEWER FORCE MAIN TO BE PVC PIPE IN ACCORDANCE WITH ASTM D1785, ASTM D2241 OR AWWA C909 INSTALLED WITH METALLIC LOCATOR TAPE IN TRENCH.
- 36. ALL WATER MAINS AND SANITARY SEWER LINES SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF 10 FEET. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE, THE WATER AND SEWER LINES SHALL BE IN SEPARATE TRENCHES (STEP TRENCHES ARE PROHIBITED) WITH THE TOP OF THE SEWER LINE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN OR WITH SUCH SEPARATION EXPRESSLY APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION. AT CROSSINGS OF SEWER LINES AND WATER MAINS, THE TOP OF THE SEWER LINES SHALL BE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN (SEWER SERVICE LATERALS ARE NOT SUBJECT TO THIS REQUIREMENT).
- IF SUCH VERTICAL SEPARATION IS NOT POSSIBLE, THE SEWER LINE SHALL BE OF WATERTIGHT CONSTRUCTION (THAT IS DUCTILE IRON PIPE WITH MECHANICAL RESTRAINT JOINTS), WITH WATERTIGHT JOINTS THAT ARE A MINIMUM OF 10 FEET FROM THE WATER MAIN. CONTRACTOR SHALL USE TRANSITION COUPLING, POWERSEAL MODEL #3501-8AAB OR EQUIVALENT AT DIP/PVC JOINTS.

- 37. MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR THE SITE IMPROVEMENTS
- SHOWN HEREON SHALL BE IN ACCORDANCE WITH:
- A. NEW IERSEY DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR
- ROAD AND BRIDGE CONSTRUCTION", 2007: AS SUPPLEMENTED. B. CURRENT PREVAILING MUNICIPAL, COUNTY, AND/OR STATE AGENCY
- SPECIFICATIONS, STANDARDS, CONDITIONS, AND REQUIREMENTS. C. CURRENT PREVAILING UTILITY COMPANY/AUTHORITY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS. D. CURRENT MANUFACTURER SPECIFICATIONS, STANDARDS, AND REQUIREMENTS
- 38. CABLE, TELEPHONE, ELECTRIC, AND GAS LINES SHALL BE INSTALLED UNDERGROUND. 39. TRAFFIC SIGNAGE AND STRIPING SHALL CORRESPOND TO THE MANUAL ON UNIFORM

TRAFFIC CONTROL DEVICES. LONGITUDINAL TRAFFIC STRIPING WITHIN ROADWAY

- TO BE THERMOPLASTIC. 40. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY, INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED. THE SITE HAS DOCUMENTED RADIOACTIVE MATERIAL AND CONTAMINATED SURFACE AND
- SUBSURFACE SOIL. 41.EARTHWORK ACTIVITIES WILL BE LIMITED BY THE MATERIALS ENCOUNTERED WHICH MAY RESULT IN INCREASED HANDLING COSTS AND QUANTITY OF IMPORTED FILL MATERIALS IN LIEU OF REUSING EXCAVATED SITE MATERIALS. SUBSURFACE

EXPLORATIONS SHOULD BE PERFORMED TO BETTER QUANTIFY THE REUSABILITY OF

42.PURSUANT TO THE "ONE CALL" LAW, CONTRACTOR SHALL CALL 1-800-272-1000 OR 811 PRIOR TO ANY EXCAVATION TO REQUEST A MARKOUT OF UNDERGROUND

ONSITE EXCAVATED MATERIALS.

- 43.MANY FACTORS WILL AFFECT THE FINAL EARTHWORK RESULTS. THESE FACTORS MAY INCLUDE BUT ARE NOT LIMITED TO, WEATHER CONDITIONS DURING CONSTRUCTION, EARTH MOVING EQUIPMENT USED, EXPERIENCE OF EQUIPMENT OPFRATORS, COMPACTION ACCURACY, PRIOR DISTURBANCE FROM REMEDIATION ACTIVITIES, ASSUMPTIONS REGARDING EXISTING TOPOGRAPHY, VARIABLE SHRINK/SWELL CHARACTERISTICS, ETC.
- 44. ALL SIGNAGE AND STRIPING OF FIRE ZONES SHALL BE APPROVED BY THE BOROUGH FIRE OFFICIAL.
- 45. ALL GRADING WITHIN LAWN AREAS SHALL BE A MINIMUM OF 2% AND A MAXIMUM OF 3 FT HORIZONTALLY TO I FT VERTICALLY AND AWAY FROM ALL PROPOSED AND EXISTING BUILDINGS.

46. ALL GRADING WITHIN PAVED AREAS SHALL BE A MINIMUM OF 0.75%.

WITH BOROUGH STANDARDS AND REQUIREMENTS.

- 47. ALL SANITARY SEWER LATERAL PIPES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH BOROUGH STANDARDS AND REQUIREMENTS.
- 48. GREASE TRAPS SHALL BE PROVIDED FOR INDIVIDUAL TENANTS / USES AS REQUIRED BY THE BOROUGH, SEWERAGE AUTHORITY AND/OR BUILDING CODE. 49. ALL WATER DISTRIBUTION SYSTEM IMPROVEMENTS SHALL BE INSTALLED IN
- ACCORDANCE WITH THE REQUIREMENTS OF THE WATER UTILITY AND THE PLUMBING SUBCODE OFFICIAL. 50. ALL WATER MAINS SHALL BE INSTALLED, DISINFECTED AND TESTED IN ACCORDANCE
- 51. THE INSTALLATION OF ALL WATER METERS SHALL BE REVIEWED AND APPROVED BY THE BOROUGH WATER DEPARTMENT. 52. ALL WATER MAIN FITTINGS SHALL BE MECHANICAL JOINT AND UTILIZE TWO MEANS OF
- 53.IF REQUIRED, STRUCTURAL CALCULATIONS SHALL BE PROVIDED FOR REVIEW AND APPROVAL BY THE BOROUGH ENGINEER FOR ANY OVERSIZED DRAINAGE STRUCTURES. 54. ALL SITE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE BOROUGH OF
- SAYREVILLE CONSTRUCTION STANDARDS UNLESS OTHERWISE NOTED. 55."A STORMWATER MAINTENANCE AGREEMENT WILL BE FILED WHICH SETS FORTH DOCUMENTATION THAT ANY PROPOSED DRAINAGE SYSTEM AND ANY AND ALL STORMWATER (DRAINAGE SWAI F/DETENTION/RETENTION/RECHARGE FACILITIES) WILL BE ADEOUATELY MAINTAINED IN ACCORDANCE WITH THE STANDARDS OF MIDDLESEX COUNTY. REFER TO THE PARAGRAPH IN THE STORMWATER MAINTENANCE AGREEMENT ENTITLED 'RIGHT OF COUNTY OF MIDDLESEX TO MAINTAIN DRAINAGE

BASINS'. CONDITIONS THAT AFFECT NON-COUNTY FACILITIES SHOULD BE REVIEWED

56. ANY IMPROVEMENTS ON BLOCK 257, LOT 3.06 WILL REQUIRE APPROVAL OF A STORMWATER MANAGEMENT PLAN FOR THE PROPERTY. 57. THESE GENERAL NOTES SHALL APPLY TO ALL SHEETS.

AND APPROVED BY THE APPROPRIATE JURISDICTIONAL AGENCY."

# ADA INSTRUCTIONS TO CONTRACTOR

INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING

- THE DESIGN OF ALL PROPOSED CURB RAMPS, SIDEWALKS, AND CROSSWALKS SHALL MEET THE LATEST ADA REQUIREMENTS.
- CONTRACTOR SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAPPED) ACCESSIBLE COMPONENTS FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE LATEST ADA STANDARDS FOR ACCESSIBLE DESIGN. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EGRESS, SHALL COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE
- ( NOTE: THIS LIST IS NOT INTENDED TO CAPTURE EVERY APPLICABLE FEDERAL, STATE AND LOCAL RULE AND REGULATION. THE CONTRACTOR IS RESPONSIBLE FOR
- COMPLIANCE WITH THE LAW. WHETHER OR NOT STATED SPECIFICALLY HEREIN): A. PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:48 (I/4" PER FOOT OR NOMINALLY 2.0%) IN ANY DIRECTION.
- B. CURB RAMPS- SLOPES SHALL NOT EXCEED 1:12 (8.3%). C. LANDINGS -SHALL BE PROVIDED AT EACH END OF RAMPS, SHALL PROVIDE
- NOMINALLY 2.0%) IN ANY DIRECTION. D. PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - SHALL PROVIDE A 36 INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL. (CAR OVERHANGS CANNOT REDUCE THIS MINIMUM WIDTH). THE SLOPE SHALL BE NO GREATER THAN 1:20

POSITIVE DRAINAGE, AND SHALL NOT EXCEED 1:48 (1/4" PER FOOT OR

(5.0%) IN THE DIRECTION OF TRAVEL, AND SHALL NOT EXCEED 1:48 (1/4" PER

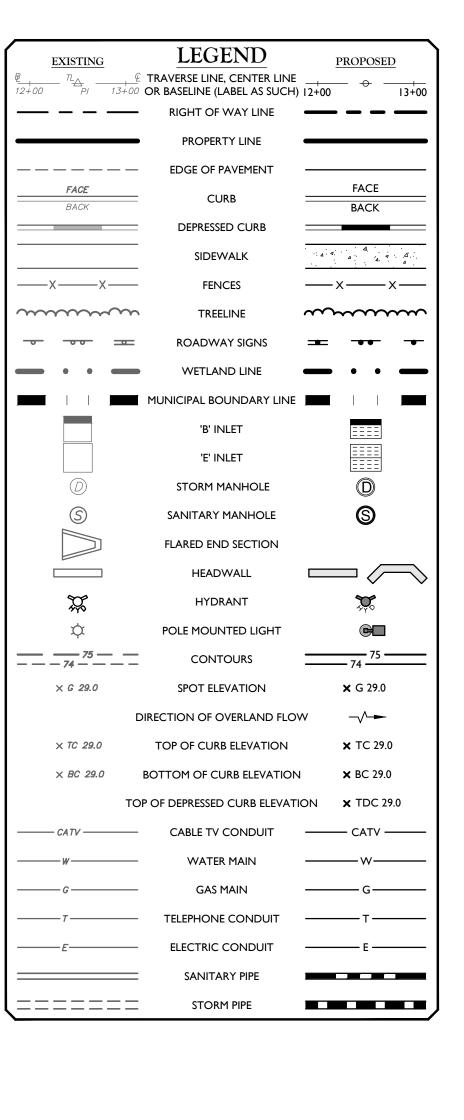
LANDINGS ON EACH END THAT ARE SLOPED NO MORE THAN 1:48 (1/4" PER

- FOOT OR NOMINALLY 2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), AN ADA RAMP WITH A MAXIMUM SLOPE OF 1:12 (8.3%), FOR A MAXIMUM DISTANCE OF 30 FEET. SHALL BE PROVIDED. THE RAMP SHALL HAVE ADA HAND RAILS AND "LEVEL"
- FOOT OR NOMINALLY 2.0%) FOR POSITIVE DRAINAGE. DOORWAYS - SHALL HAVE A "LEVEL" LANDING AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED NO MORE THAN 1:48 (1/4" PER FOOT OR NORMALLY 2.0%) FOR POSITIVE DRAINAGE THIS LANDING AREA SHALL BE NO LESS THAN 60. INCHES (5 FEET) LONG. EXCEPT WHERE OTHER WISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS (SEE

APPLICABLE CODE SECTIONS).

COMMENCING WORK.

IT IS RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE OFFICIAL PRIOR TO



#### SIGNAL EQUIPMENT LEGEND

SIGNAL FOUNDATION TRAFFIC SIGNAL MAST ARM IMAGE DETECTOR PEDESTRIAN PUSH BUTTON MAST ARM MOUNTED SIGN TRAFFIC SIGN

### PAVEMENT MARKING LEGEND

CONTROLLER

UNLESS OTHERWISE SHOWN, PAVEMENT MARKINGS SHALL CONFORM TO THE FOLLOWING: -24" WIDE WHITE LINE **CENTER LINE** -2-4" WIDE YELLOW LINES DASHED LANE LINE -4" WIDE WHITE LINE, 10' LONG AT 30' INTERVALS -4" WIDE WHITE LINE, 2' LANE EXTENSION GUIDE LANES LONG AT 4' INTERVALS SOLID LANE LINE-EXCLUSIVE MOVEMENT -8" WIDE WHITE LINE SOLID LANE LINE- ALL OTHERS -4" WIDE WHITE LINE CROSSWALK LINES
MEDIAN CROSS HATCH LINES AT 45° SPACED 12' O.C **GORE CROSS HATCH LINES** -24" WIDE WHITE LINES AT 45° SPACED 12' O.C ISLAND CHANNELIZATION LINE -8" WIDE WHITE LINE RIGHT SHOULDER LINE -4" WIDE WHITE LINE LEFT SHOULDER LINE -4" WIDE YELLOW LINE ) ALL TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE CURRENT

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES

BE REMOVED BY THE GRINDING METHOD.

BE REMOVED AS PART OF THIS CONSTRUCTION.

FROM STOP LINE

5) W = WHITE STRIPE

Y = YELLOW STRIPE

) NEAREST CROSSWALK LINE IS TO BE LOCATED A MINIMUM OF 4'

3) EXISTING STRIPING THAT DOES NOT CONFORM TO THIS PLAN SHALL

4) ALL CONFLICTING SIGNS, TREES AND OTHER OBSTRUCTIONS SHALL

DANIEL W. BUSCH NEW JERSEY PROFESSIONAL **ENGINEER - LICENSE NUMBER: GE42093** PHASE 1A BASS PRO

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**SAYREVILLE SEAPORT ASSOCIATES** 

BLOCK 257.02

**BUILDING SITE** 

LOT 7 BOROUGH OF SAYREVILLE MIDDLESEX COUNTY

**NEW JERSEY** HOLMDEL (Headquarters) 331 Newman Springs Road **Colliers** Red Bank, NJ 07701 Phone: 732.383.1950 Engineering

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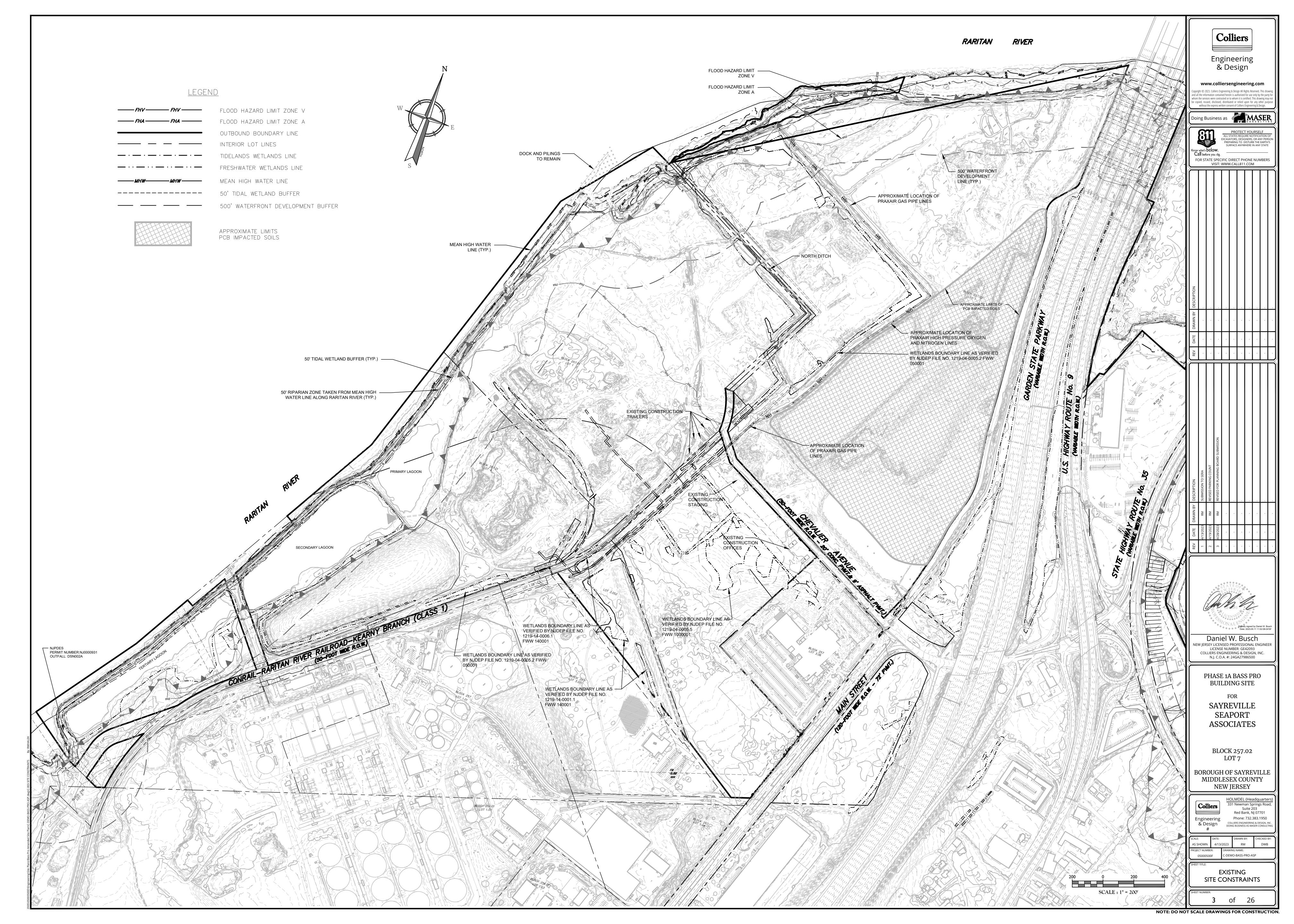
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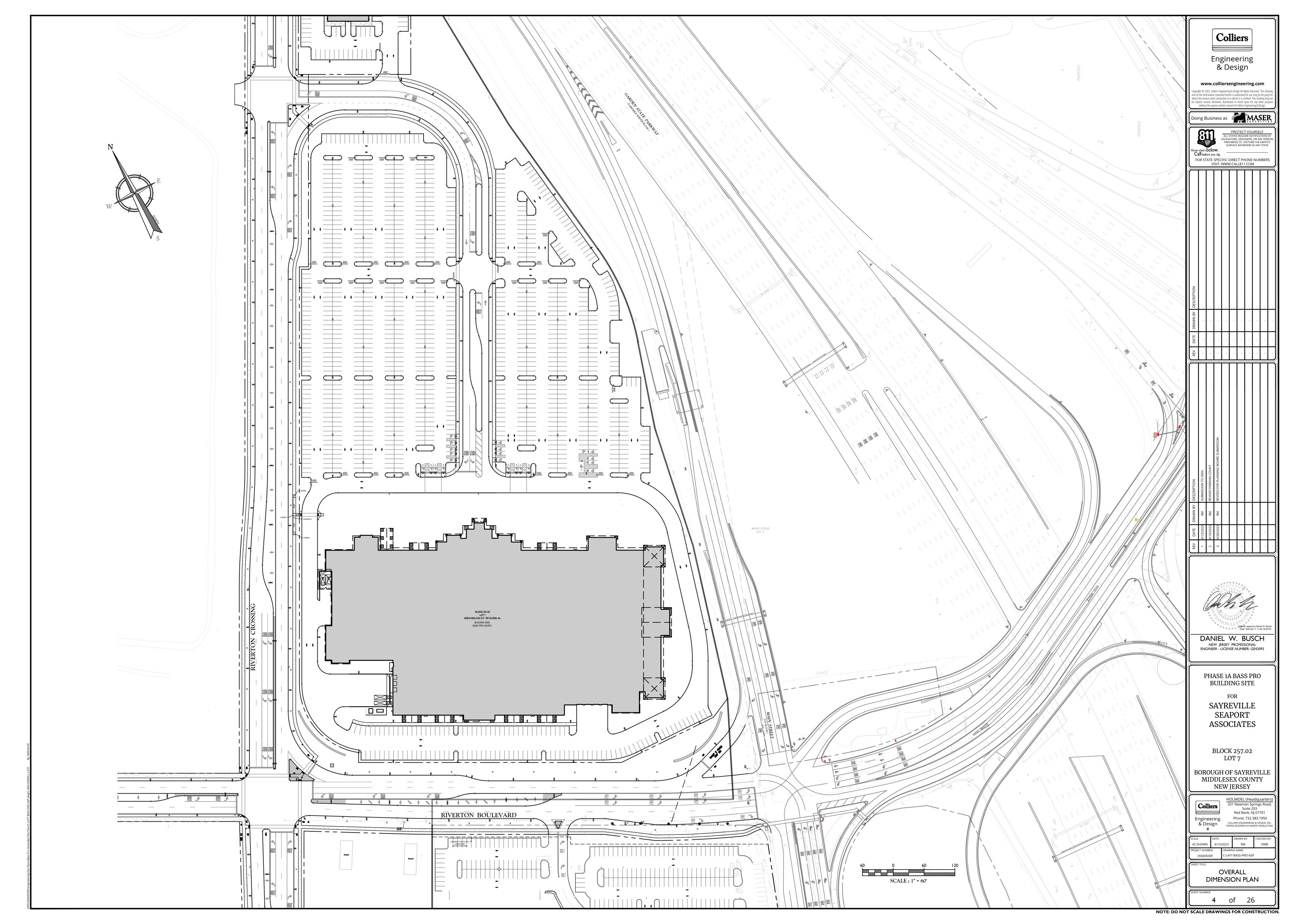
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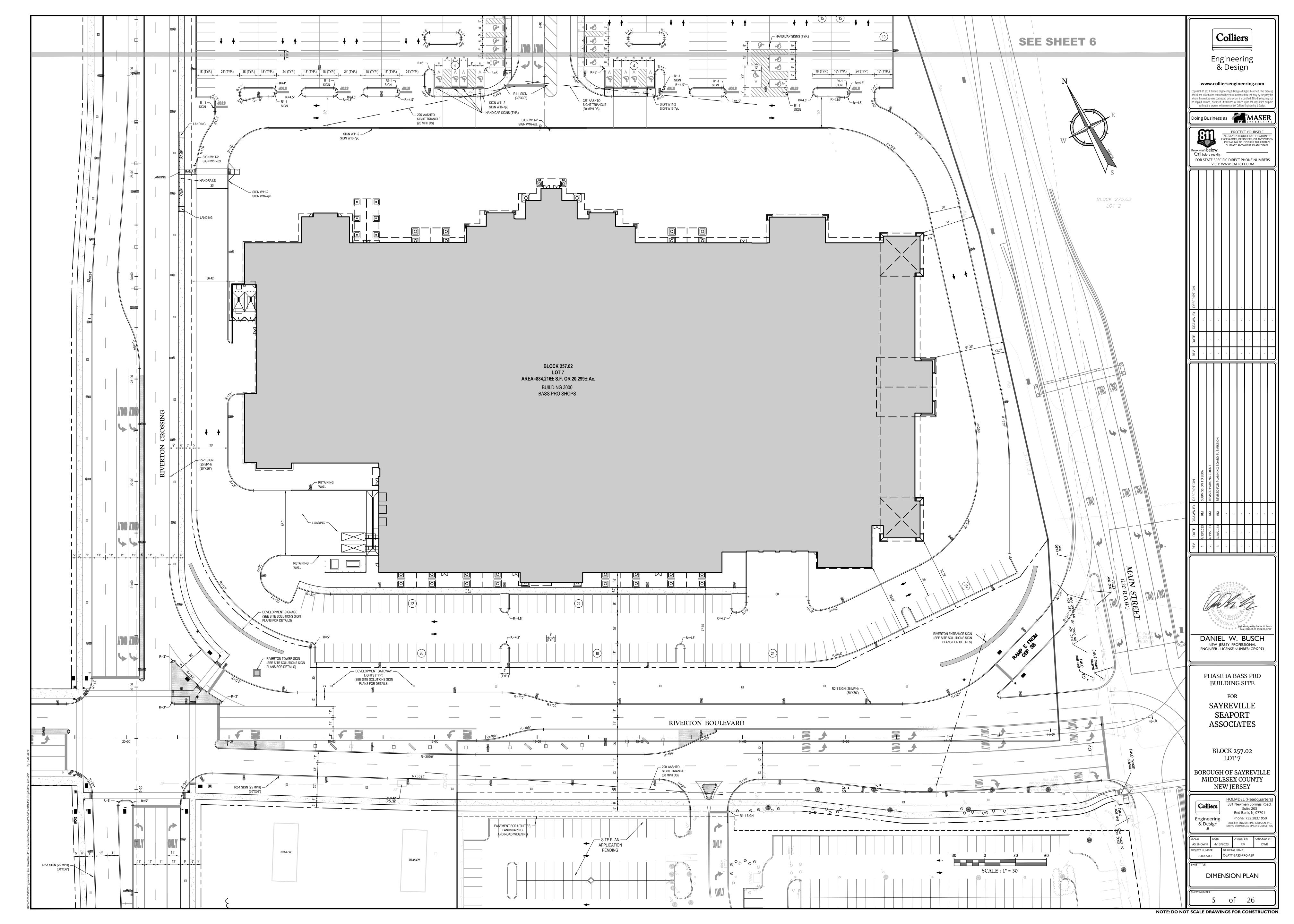
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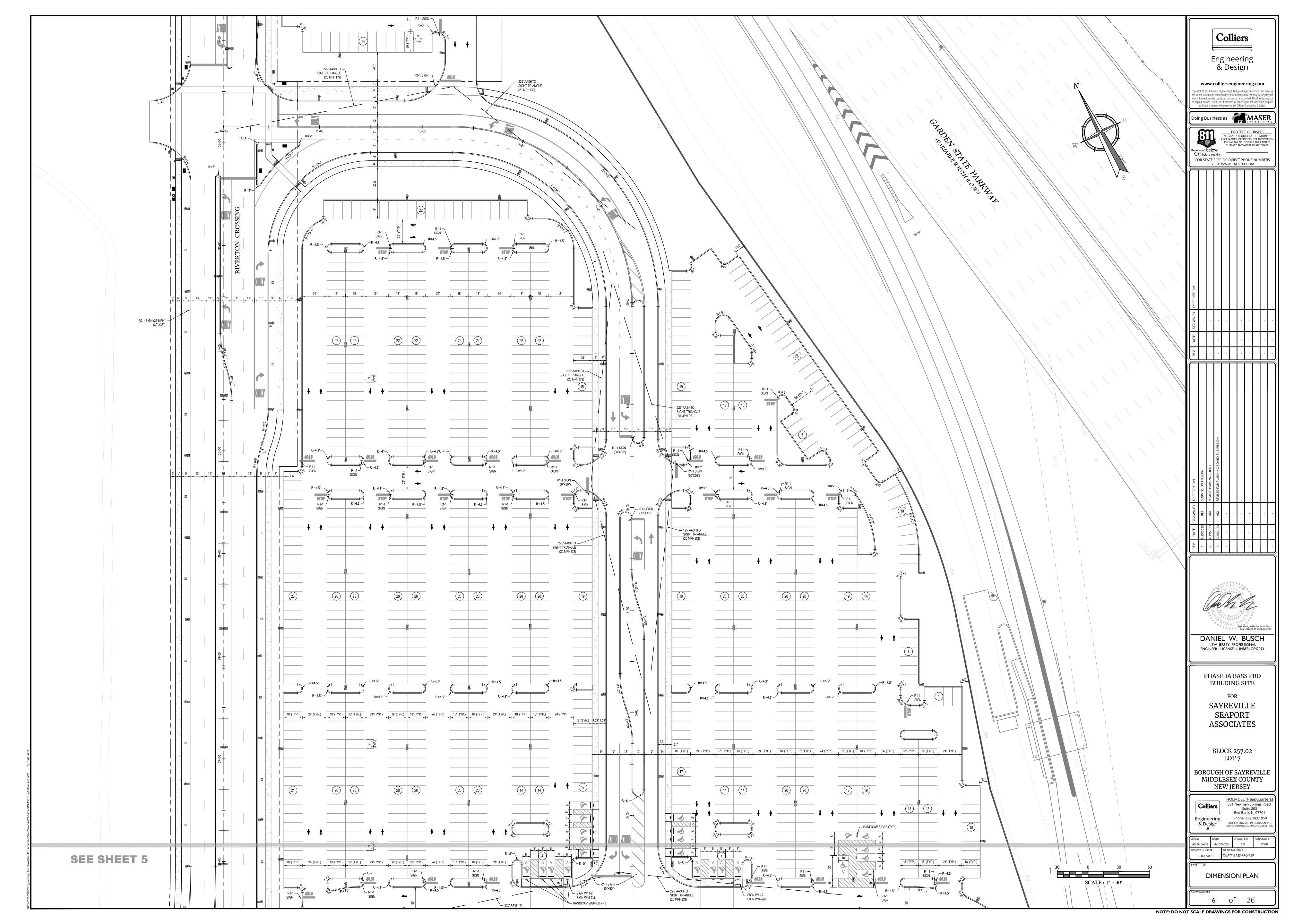
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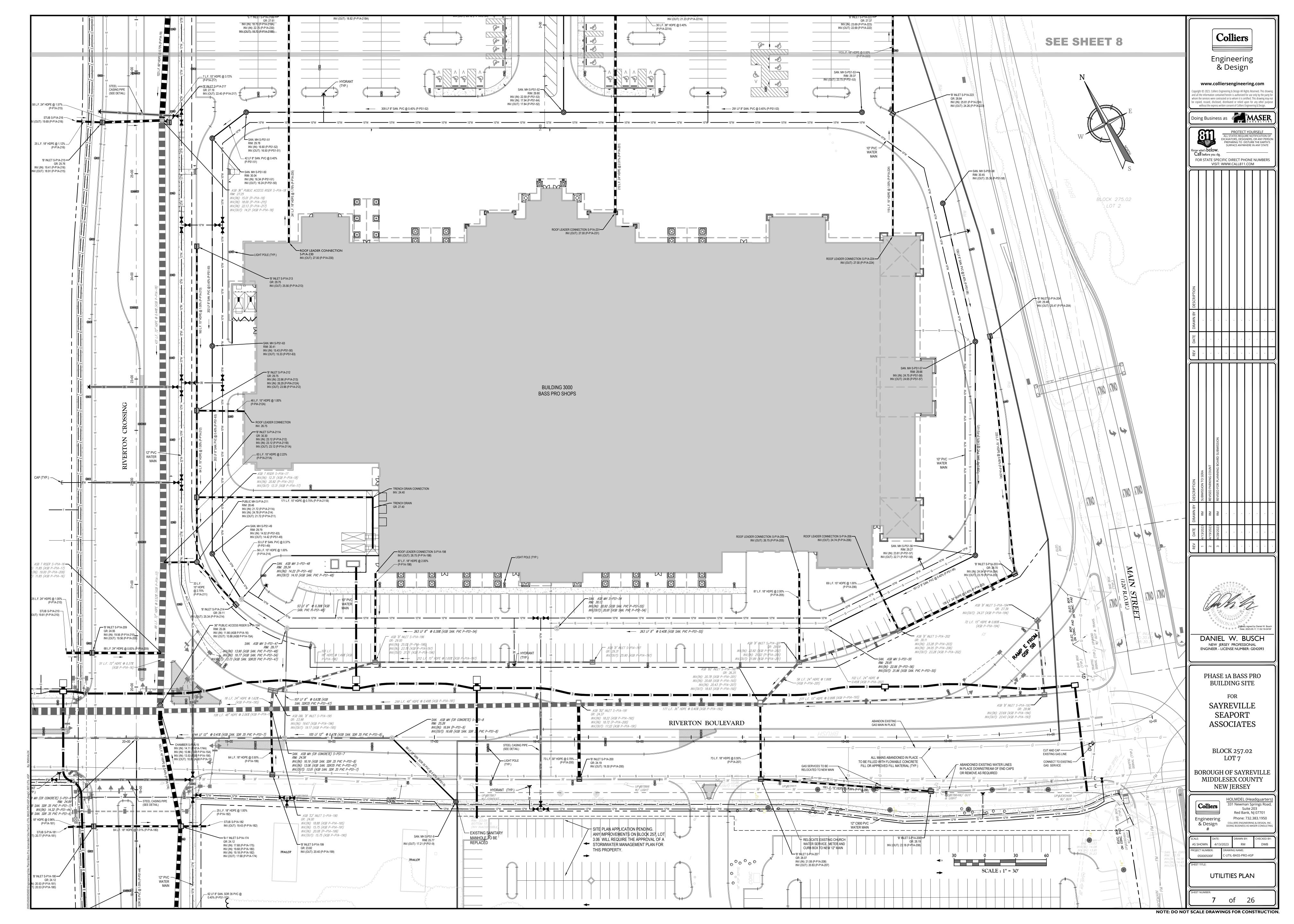
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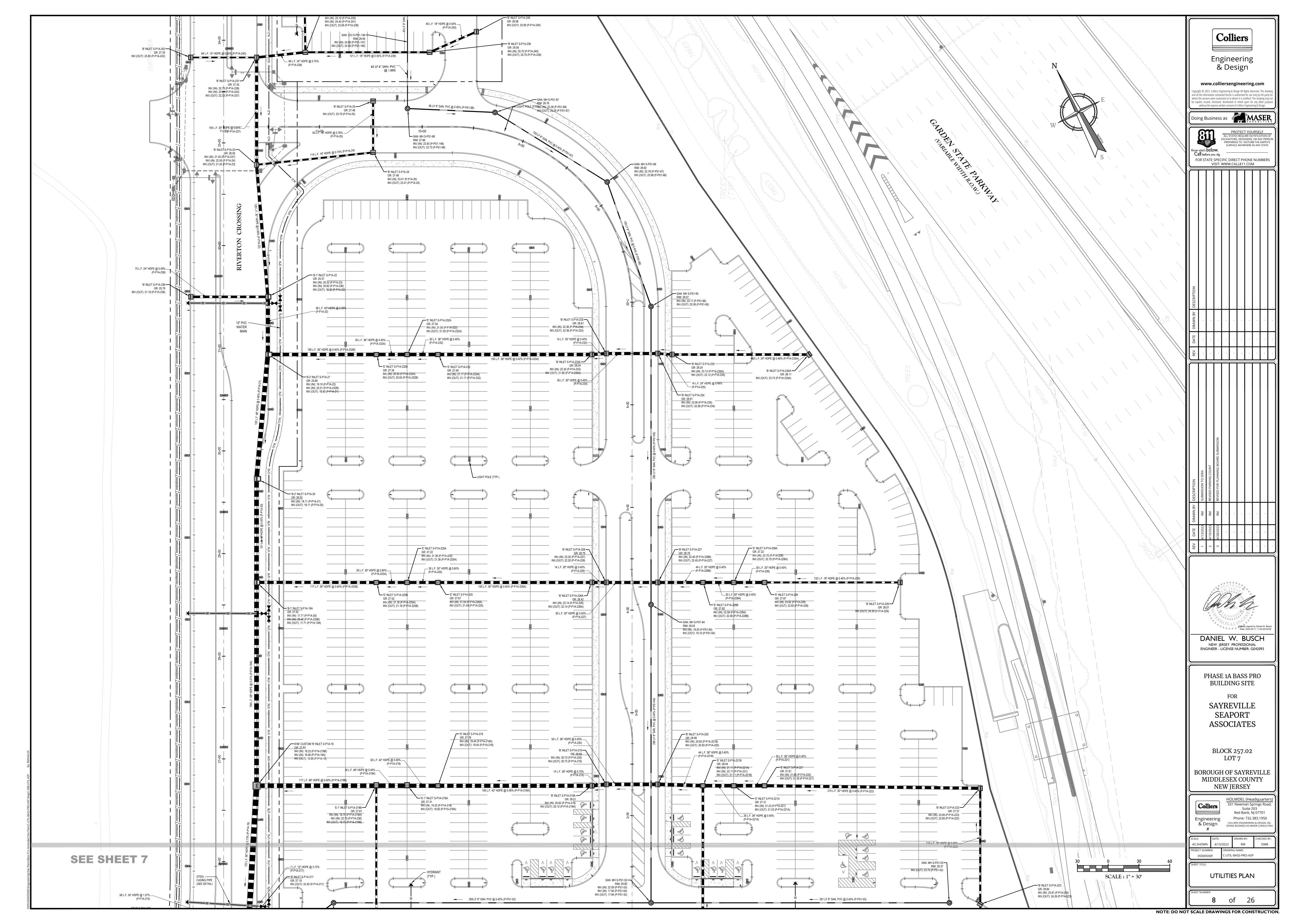


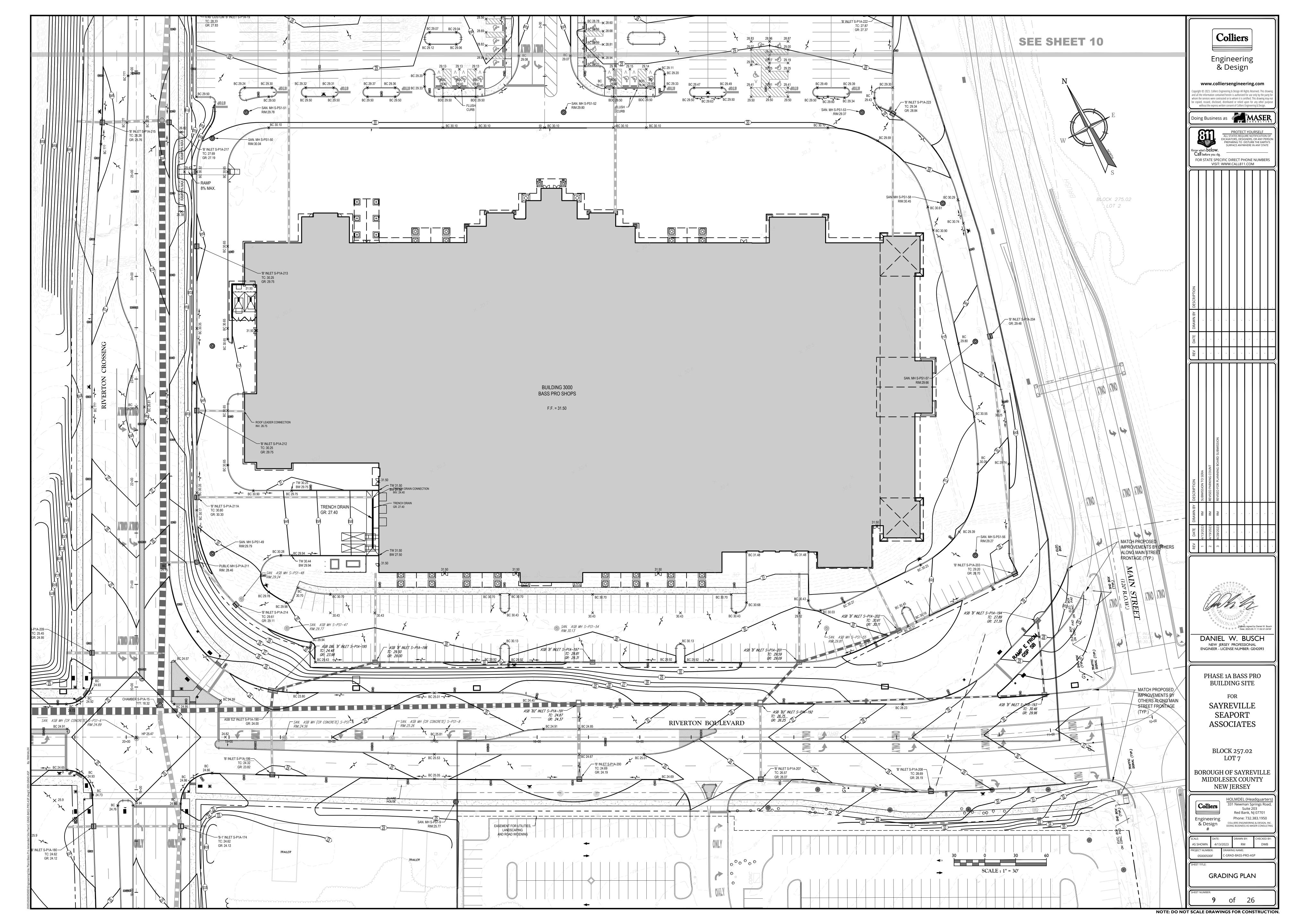


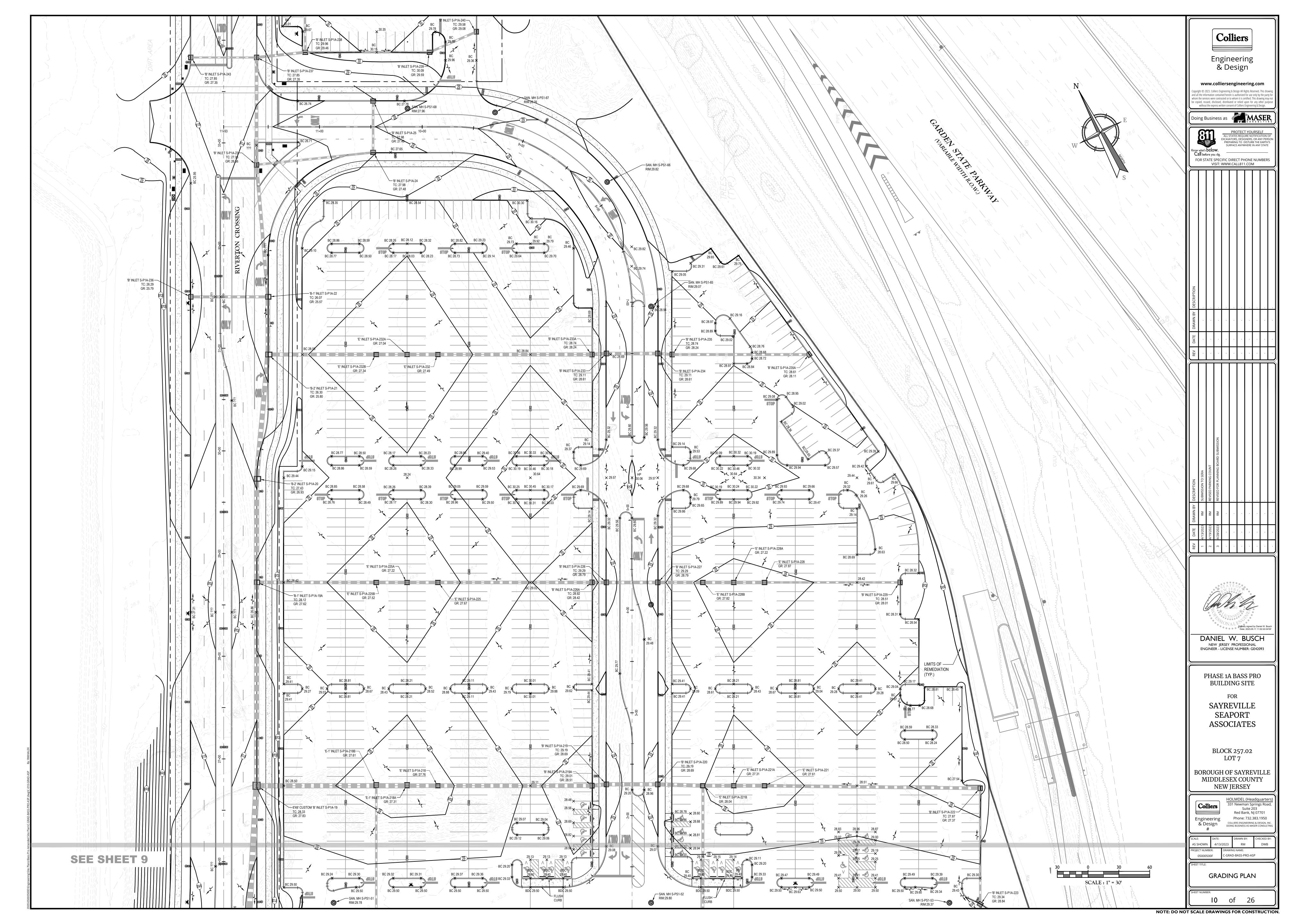


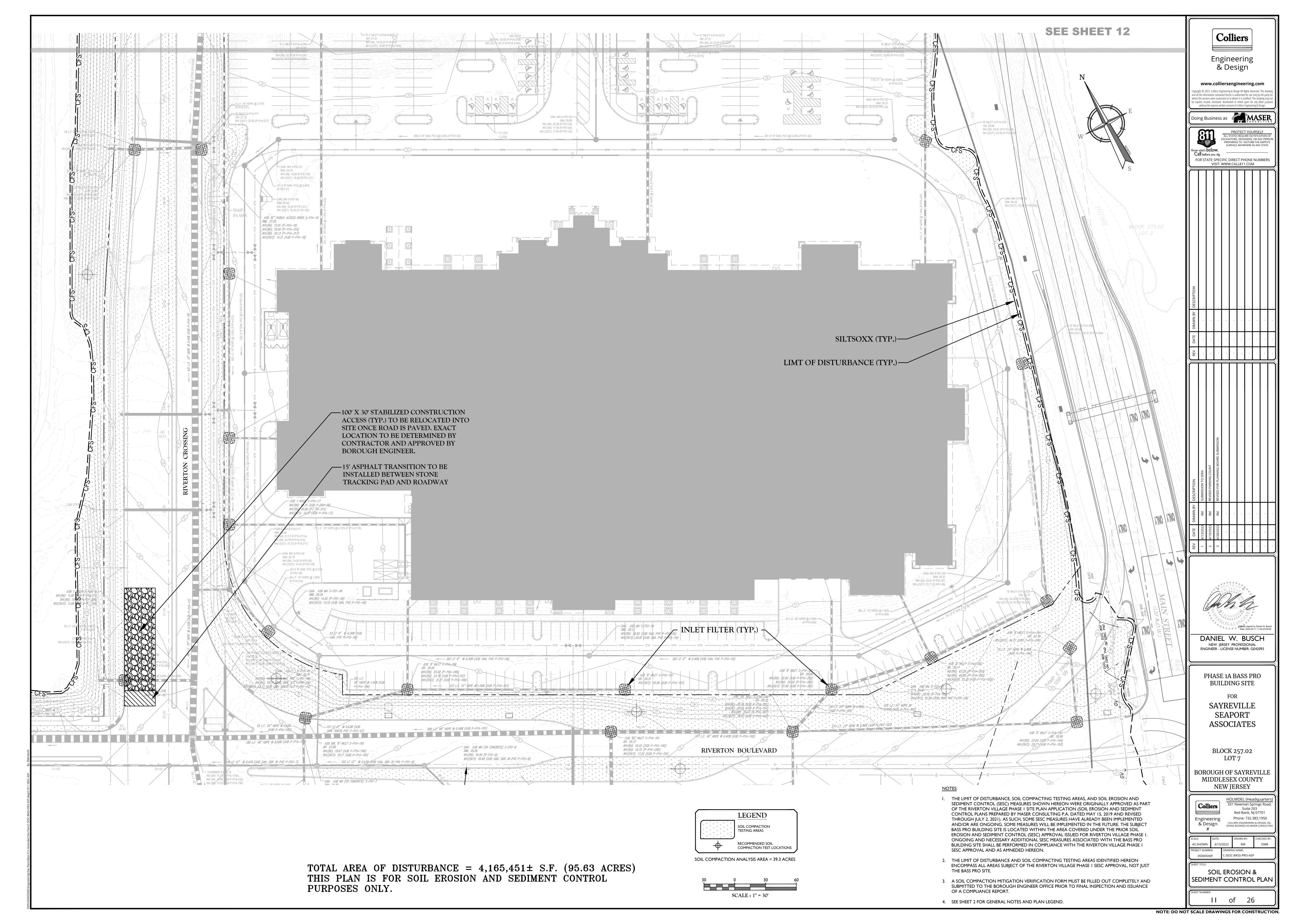


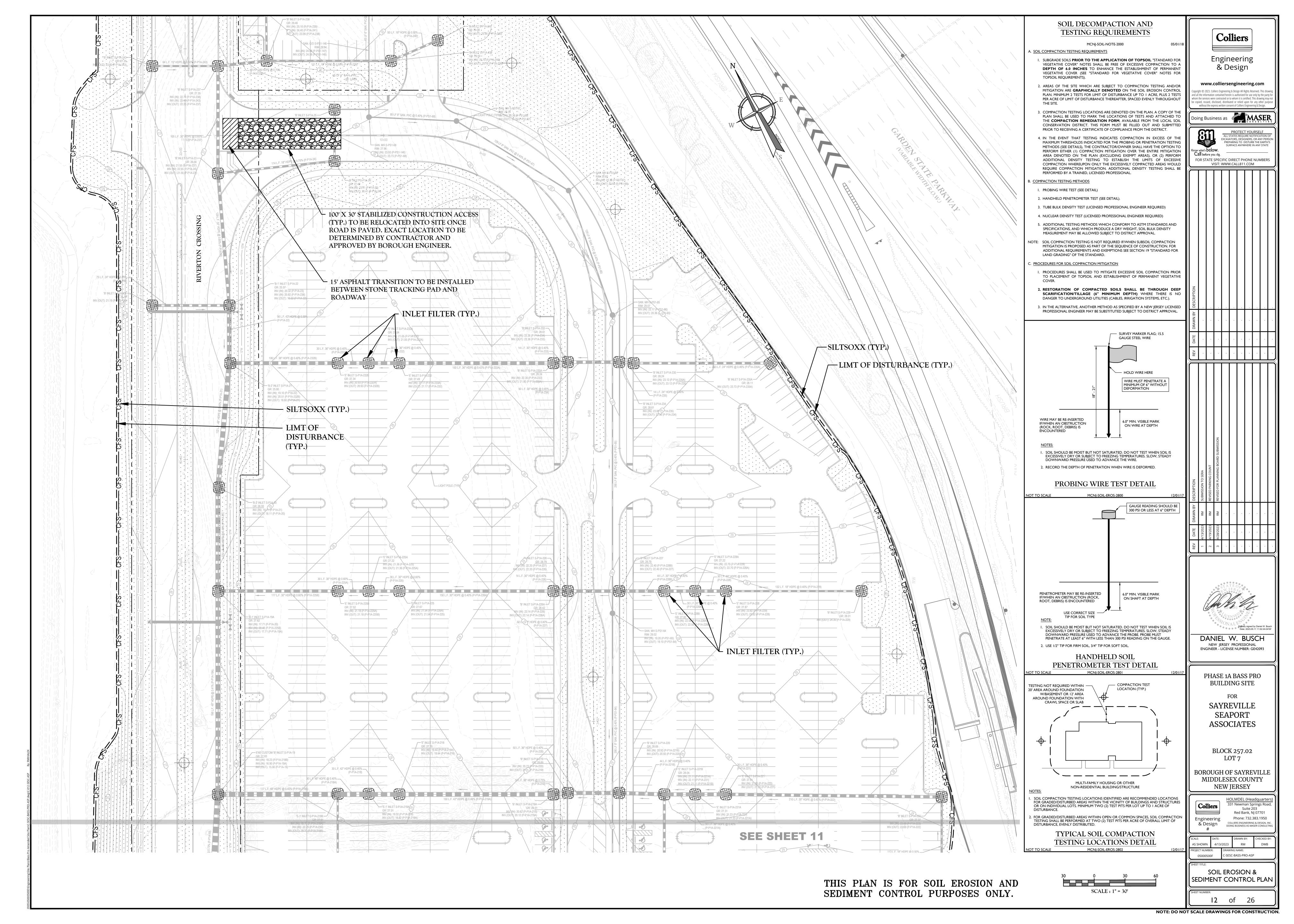


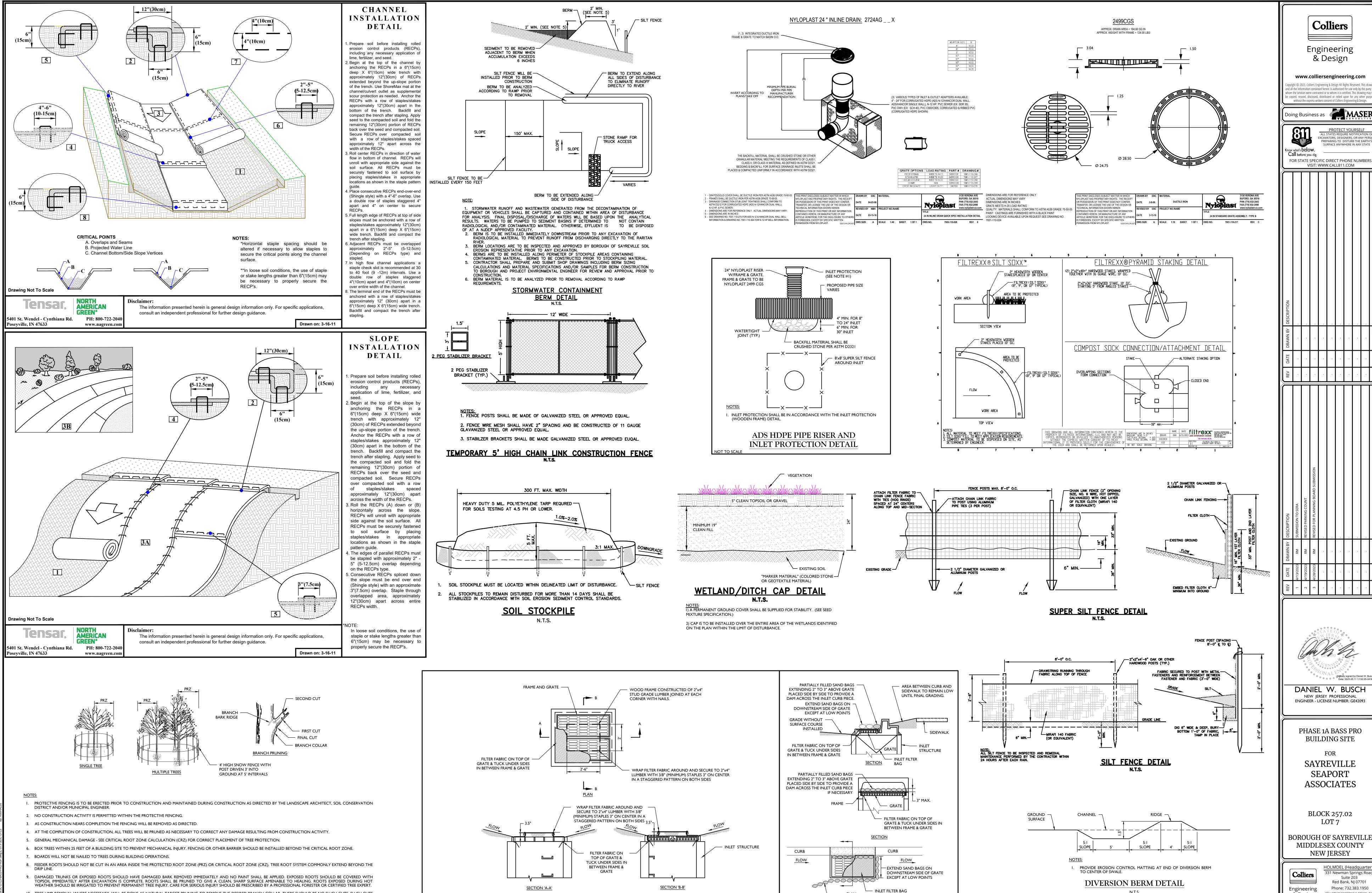












FILTER TO REMAIN UNTIL COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF COVER. ALSO PERIODIC CHECKS MUST BE MADE AFTER EACH RAINFALL TO EXCAVATE AND REMOVE

INLET PROTECTION (WOODEN FRAME) DETAIL

MCNI-SOIL-EROS-1503

EXCESS SEDIMENT FROM AROUND INLETS.

NOT TO SCALE

FILTER FABRIC SHALL BE MIRAFI 140N OR APPROVED EQUIVALENT.

10. TREE LIMB REMOVAL WHERE NECESSARY, WILL BE DONE AS NATURAL TARGET PRUNING TO REMOVE THE DESIRED BRANCH COLLAR. THERE SHOULD BE NO FLUSH CUTS. FLUSH CUTS

TEMPORARY TREE PROTECTION DETAIL

AVOID FUTURE SPLITTING DAMAGE.

11. CRITICAL ROOT ZONE (CRZ) OR PROTECTED ROOT ZONE (PRZ) CALCULATION:

MEASURE DHB OF THE TREE (DIAMETER OF TREE IN BREAST HEIGHT OR 4.5' ABOVE GROUND ON THE UPHILL SIDE) IN INCHES.

CRZ OR PRZ = DHB TIMES 1.5 (FOR OLD/UNHEALTHY/SENSITIVE TREES) OR DHB X 1.0 (FOR YOUNG/HEALTH/TOLERANT TREES), EXPRESS IN FEET.

DESTROY A MAJOR DEFENSE SYSTEM OF THE TREE. NO TREE PAINT SHALL BE APPLIED. ALL CUTS SHALL BE MADE AT THE OUTSIDE EDGE OF THE BRANCH COLLAR. CUTS MADE TOO FAR

BEYOND THE BRANCH COLLAR MAY LEAD TO EXCESS SPROUTING, CRACKS AND ROT. REMOVAL OF A "V" CROTCH SHOULD BE CONSIDERED FOR FREE STANDING SPECIMEN TREES TO

DANIEL W. BUSCH NEW JERSEY PROFESSIONAL **ENGINEER - LICENSE NUMBER: GE42093** PHASE 1A BASS PRO **BUILDING SITE** FOR **SAYREVILLE SEAPORT ASSOCIATES** BLOCK 257.02 LOT 7 BOROUGH OF SAYREVILLE MIDDLESEX COUNTY **NEW JERSEY** HOLMDEL (Headquarters 331 Newman Springs Road **Colliers** Red Bank, NJ 07701 Phone: 732.383.1950 Engineering OLLIERS ENGINEERING & DESIGN, INC & Design DOING BUSINESS AS MASER CONSULT C-SESC-DTLS-BASS-PRO-ASP 05000500F SOIL EROSION & SEDIMENT CONTROL DETAILS NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

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<u>PLAN</u>

FILTER FABRIC SHALL BE MIRAFI 140N OR APPROVED EQUIVALENT.

NOTES:

05/01/17 NOT TO SCALE

- SAND BAGS TO DIRECT FLOW

INLET FILTER BAG TO REMAIN UNTIL COMPLETION OF FINAL GRADING, PAVING

AND ESTABLISHMENT OF COVER. PERIODICALLY CHECK AFTER EACH RAINFALL

INLET PROTECTION

(SAND BAG) DETAIL

TO INLET (IF NECESSARY)

TO EXCAVATE AND REMOVE EXCESS SEDIMENT FROM AROUND INLETS.

#### BOROUGH SOIL CONSERVATION DISTRICT NOTES

MCNI-SOIL-NOTE-1005 THE BOROUGH OF SAYREVILLE SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS IN

ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

ADVANCE OF ANY SOIL DISTURBING ACTIVITY.

ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE BOROUGH FOR RE-CERTIFICATION. THE REVISED PLANS MUST MEET ALL

CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.

N.J.S.A 4:24-39 ET. SEQ. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE BOROUGH DETERMINES THAT A PROJECT OR PORTION THEREOF IS IN FULL COMPLIANCE WITH THE CERTIFIED PLAN AND STANDARDS FOR SOIL FROSION AND SEDIMENT CONTROL IN NEW JERSEY AND A REPORT OF COMPLIANCE HAS BEEN ISSUED UPON WRITTEN REQUEST FROM THE APPLICANT, THE BOROUGH MAY ISSUE A REPORT OF COMPLIANCE WITH CONDITIONS ON A LOT-BY-LOT OR SECTION-BY-SECTION BASIS. PROVIDED THAT THE PROIECT OR PORTION THEREOF IS IN SATISFACTORY COMPLIANCE WITH THE SEQUENCE OF DEVELOPMENT AND TEMPORARY MEASURES FOR SOIL EROSION AND SEDIMENT CONTROL HAVE BEEN IMPLEMENTED, INCLUDING PROVISIONS FOR STABILIZATION AND SITE WORK.

ANY STOCKPILE OR DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN FOURTEEN (14) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW, OR EQUIVALENT MATERIAL, AT A RATE OF 2 TO 2 1/2 TONS PER ACRE, ACCORDING TO THE STANDARD FOR STABILIZATION WITH MULCH ONLY.

IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. SOIL STOCKPILES, STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AND A MULCH ANCHOR, IN ACCORDANCE WITH STATE STANDARDS.

A SUB-BASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS TO STABILIZE STREETS. ROADS. DRIVEWAYS. AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT. THE SUB-BASE SHALL BE INSTALLED WITHIN FIFTEEN (15) DAYS OF THE PRELIMINARY GRADING.

THE STANDARD FOR STABILIZED CONSTRUCTION ACCESS REQUIRES THE INSTALLATION OF A PAD OF CLEAN CRUSHED STONE AT POINTS WHERE TRAFFIC WILL BE ACCESSING THE CONSTRUCTION SITE AFTER INTERIOR ROADWAYS ARE PAVED INDIVIDUAL LOTS REQUIRE A STABILIZED CONSTRUCTION ACCESS CONSISTING OF ONE INCH TO TWO INCH (I" - 2") STONE FOR A MINIMUM LENGTH OF TEN FEET (10') EQUAL TO THE LOT ENTRANCE WIDTH. ALL OTHER ACCESS POINTS SHALL BE BLOCKED OFF.

ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.

PERMANENT VEGETATION IS TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING.

AT THE TIME THAT SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER SHALL BE REMOVED OR TREATED IN SLICH A WAY THAT IT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER. IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NON-VEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE

IN ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID PRODUCING SOILS. ANY SOIL HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS/ACRE. (OR 450 LBS/1.000 SO FT OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12" OF SETTLED SOIL WITH A PH OF 5 OR MORE, OR 24" WHERE TREES OR SHRUBS ARE TO BE PLANTED.

CONDUIT OUTLET PROTECTION MUST BE INSTALLED AT ALL REQUIRED OUTFALLS PRIOR TO THE DRAINAGE SYSTEM BECOMING OPERATIONAL.

LINEILTERED DEWATERING IS NOT PERMITTED. NECESSARY PRECAUTIONS MUST BE TAKEN DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DEWATERING METHODS USED MUST BE IN ACCORDANCE WITH THE STANDARD FOR DEWATERING.

SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED AS REQUIRED BY THE STANDARD FOR DUST

. STOCKPILE AND STAGING LOCATIONS ESTABLISHED IN THE FIELD SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIN THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. CERTIFICATION OF A NEW SOIL EROSION AND SEDIMENT CONTROL PLAN MAY BE REQUIRED FOR THESE ACTIVITIES IF AN AREA GREATER THAN 5,000 SQUARE FEET IS

ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE #6.

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT.

> FREEHOLD SOIL CONSERVATION DISTRICT 4000 KOZLOSKI ROAD, FREEHOLD, NJ 07728-5033, PHONE (732) 683-8500, FAX (732) 683-9140, EMAIL: INFO@FREEHOLDSCD.ORG.

#### **MITIGATION NOTES** FOR ACIDIC SOIL

MCNJ-SOIL-NOTE-1700 05/01/17 LIMIT THE EXCAVATION AREA AND EXPOSURE TIME WHEN HIGH-ACID PRODUCING SOILS ARE ENCOUNTERED.

TOPSOIL STRIPPED FROM THE SITE SHALL BE STORED SEPARATELY FROM TEMPORARILY STOCKPILED HIGH ACID PRODUCING SOILS.

STOCKPILES OF HIGH ACID-PRODUCING SOIL SHOULD BE LOCATED ON LEVEL LAND TO MINIMIZE ITS MOVEMENT, ESPECIALLY WHEN THIS MATERIAL HAS A HIGH CLAY

TEMPORARILY STOCKPILED HIGH ACID-PRODUCING SOIL MATERIAL TO BE STORED MORE THAN 48 HOURS SHOULD BE COVERED WITH PROPERLY ANCHORED, HEAVY GRADE SHEETS OF POLYETHYLENE WHERE POSSIBLE, IF NOT POSSIBLE, STOCKPILES SHALL BE COVERED WITH A MINIMUM OF 3 TO 6 INCHES OF WOOD CHIPS TO MINIMIZE EROSION OF THE STOCKPILE. SILT FENCE SHALL BE INSTALLED AT THE TOE OF THE SLOPE TO CONTAIN MOVEMENT OF THE STOCKPILED MATERIAL. TOPSOIL SHALL NOT BE APPLIED TO THE STOCKPILES TO PREVENT TOPSOIL CONTAMINATION WITH HIGH ACID-PRODUCING SOIL.

HIGH ACID PRODUCING SOILS WITH A DH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE (INCLUDING BORROW FROM CUTS OR DREDGED SEDIMENT) SHALL BE ULTIMATELY PLACED OR BURIED WITH LIMESTONE APPLIED AT THE RATE OF 10 TONS PER ACRE (OR 450 POUNDS PER 1,000 SQUARE FEET OF SURFACE AREA) AND COVERED WITH A MINIMUM OF 12 INCHES OF SETTLED SOIL WITH A pH OF 5.0 OR MORE EXCEPT

A. AREAS WHERE TREES OR SHRUBS ARE TO BE PLANTED SHALL BE COVERED WITH A MINIMUM OF 24 INCHES OF SOIL WITH A pH OF 5 OR MORE.

B. DISPOSAL AREAS SHALL NOT BE LOCATED WITHIN 24 INCHES OF ANY SURFACE OF A SLOPE OR BANK, SUCH AS BERMS, STREAM BANKS, DITCHES, AND OTHERS, TO PREVENT POTENTIAL LATERAL LEACHING DAMAGES.

EQUIPMENT USED FOR MOVEMENT OF HIGH ACID-PRODUCING SOILS SHOULD BE CLEANED AT THE END OF EACH DAY TO PREVENT SPREADING OF HIGH ACID-PRODUCING SOIL MATERIALS TO OTHER PARTS OF THE SITE, INTO STREAMS OR STORMWATER CONVEYANCES, AND TO PROTECT MACHINERY FROM ACCELERATED

NON-VEGETATIVE EROSION CONTROL PRACTICES (STONE TRACKING PADS, STRATEGICALLY PLACED LIMESTONE CHECK DAM, SEDIMENT BARRIER, WOOD CHIPS) SHOULD BE INSTALLED TO LIMIT THE MOVEMENT OF HIGH ACID-PRODUCING SOILS FROM, AROUND, OR OFF THE SITE.

SEEDING OF THE SITE (SEE TEMPORARY VEGETATIVE COVER FOR SOIL STABILIZATION, PERMANENT VEGETATIVE COVER FOR SOIL STABILIZATION, AND TOPSOILING), MONITORING MUST CONTINUE FOR A MINIMUM OF 6 MONTHS TO ENSURE THERE IS ADEQUATE STABILIZATION AND THAT NO HIGH ACID-PRODUCING SOIL PROBLEMS EMERGE. IF PROBLEMS STILL EXIST, THE AFFECTED AREA MUST BE TREATED AS INDICATED ABOVE TO CORRECT THE PROBLEM.

FOLLOWING BURIAL OR REMOVAL OF HIGH ACID-PRODUCING SOIL, TOPSOILING AND

### DEWATERING NOTES

I. SPECIFIC DEWATERING DESIGNS WILL BE PROVIDED AS NEEDED PRIOR TO

2. DETAILS FOR DEWATERING MEASURES SHALL BE PROVIDED AS SHOP DRAWINGS. 3. DISCHARGE FROM DEWATERING OPERATIONS SHALL BE HANDLED IN ACCORDANCE WITH THE REMEDIAL ACTION WORK PLAN.

#### STABILIZATION WITH MULCH ONLY

05/01/1

MCNJ-SOIL-NOTE-1301

I. SITE PREPARATION

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR SEEDBED PREPARATION SEEDING, MULCH APPLICATION, AND MULCH ANCHORING. ALL GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARDS FOR LAND GRADING.

B. INSTALL NEEDED EROSION CONTROL PRACTICES OR FACILITIES SUCH A DIVERSIONS, GRADE STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS, AND WATERWAYS, SEE STANDARDS 11 THROUGH 42. 2. PROTECTIVE MATERIALS

A. UNROTTEN SMALL-GRAIN STRAW, AT 2.0 TO 2.5 TONS PER ACRE, IS SPREAD LINIFORMLY AT 90 TO 115 POLINDS PER 1 000 SOLIARE FEET AND ANCHORED WITH A MULCH ANCHORING TOOL, LIQUID MULCH BINDERS, OR NETTING TIE DOWN. OTHER SUITABLE MATERIALS MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT. THE APPROVED RATES ABOVE HAVE BEEN MET WHEN THE MULCH COVER. THE GROUND COMPLETELY UPON VISUAL INSPECTION, I.E. THE SOIL CANNOT BE SEEN BELOW THE MULCH.

B. SYNTHETIC OR ORGANIC SOIL STABILIZERS MAY BE USED UNDER SUITABLE CONDITIONS AND IN QUANTITIES AS RECOMMENDED BY THE MANUFACTURER. C. WOOD-FIBER OR PAPER-FIBER MULCH HYDROSEEDER IN QUANTITIES/APPLICATION

RATES AS RECOMMENDED BY MANUFACTURER. D. MULCH NETTING, SUCH AS PAPER JUTE, EXCELSIOR, COTTON, OR PLASTIC, MAY BE

e. Woodchips applied uniformly to a minimum depth of 2 inches may be used. WOODCHIPS WILL NOT BE USED ON AREAS WHERE FLOWING WATER COULD WASH THEM INTO AN INLET AND PLUG IT.

3. MULCH ANCHORING - SHOULD BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT OF HAY OR STRAW MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA AND STEEPNESS OF THE SLOPES.

OR AFTER APPLYING MUICH, SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

A. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF

THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFOR

B. MULCH NETTING - STAPLE PAPER, COTTON, OR PLASTIC NETTINGS OVER MULCH. USE DEGRADABLE NETTING IN AREAS TO BE MOWED. NETTING IS USUALLY AVAILABLE IN ROLLS 4 FEET WIDE AND UP TO 300 FEET LONG.

C. CRIMPER MULCH ANCHORING COULTER TOOL - A TRACTOR-DRAWN IMPLEMENT ESPECIALLY DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE THIS PRACTICE AFFORDS MAXIMUM EROSION CONTROL, BUT ITS USE IS LIMITED TO THE SLOPES UPON WHICH THE TRACTOR CAN OPERATE SAFELY, SOIL PENETRATION SHOULD BE ABOUT 3 TO 4 INCHES. ON A SLOPING LAND, THE OPERATION SHOULD BE ON THE CONTOUR.

D. LIQUID MULCH-BINDERS

I. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND CATCHES THE MULCH, IN VALLEYS, AND AT CRESTS OF BANKS. REMAINDER OF AREA SHOULD BE

#### 2. USE ONE OF THE FOLLOWING:

UNIFORM IN APPERANCE.

a. ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING, POWDER BASED, HYDROPHILIC MATERIALS THAT MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTOR'S CURING CONDITIONS WILL FORM MEMBRANE NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GEL SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTO-TOXIC EFFECT OR IMPEDE GROWTH OF TURFGRASS. VEGETABLE BASED GELS SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER.

b. SYNTHETIC BINDERS - HIGH POLYMERS SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND FOLLOWING APPLICATION TO MULCH. DRYING AND CURING SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. IT SHALL BE APPLIED AT RATES AND WEATHER CONDITIONS RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

#### SPPP REQUIRED INSPECTIONS AND REPORTS

MCNJ-SOIL-NOTE-1201

A COPY OF THE AUTHORIZATION SHALL BE POSTED ONSITE AT A SAFE, PUBLICLY ACCESSIBLE LOCATION IN CLOSE PROXIMITY OF TH CONSTRUCTION SITE AT ALL TIMES UNTIL A NOTICE OF COMPLETION HAS BEEN ISSUED. THE PERMITTEE SHALL POST THE NJDEP HOTLINE NUMBER (I-877-WARN-DEP) WITH THE COPY OF THE AUTHORIZATION.

ROUTINE INSPECTIONS

A. THE PERMITTEE SHALL CONDUCT AND DOCUMENT WEEKLY (MINIMUM INSPECTIONS OF THE FACILITY TO IDENTIFY AREAS CONTRIBUTING TO THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT AND EVALUATE WHETHER THE STORMWATER POLITITION PREVENTION PLAN (SPPP) IDENTIFIED UNDER E.I. O THE CONSTRUCTION ACTIVITY STORMWATER (GP) PART I NARRATIVI REQUIREMENTS, INCLUDING THIS SOIL EROSION AND SEDIMENT CONTROL PLAN I BEING PROPERLY IMPLEMENTED AND MAINTAINED, OR WHETHER ADDITIONAL MEASURES ARE NEEDED TO IMPLEMENT THE SPPP.

B. ONCE INSTALLATION OF ANY REQUIRED OR OPTIONAL EROSION CONTROL DEVICE OR MEASURE HAS BEEN IMPLEMENTED, ROUTINE INSPECTIONS, MINIMUM WEEKLY, OF EACH MEASURE SHALL BE PERFORMED BY THE CONTRACTOR'S INSPECTION PERSONNEL AND THE RESULTS RECORDED TO INVENTORY AND REPORT THE CONDITION OF EACH MEASURE TO ASSIST IN MAINTAINING THE EROSION AND SEDIMENT CONTROL MEASURES IN GOOD WORKING ORDER.

C. THESE REPORT FORMS SHALL BECOME AN INTEGRAL PART OF THE SPPP AND SHALI BE MADE READILY ACCESSIBLE TO GOVERNMENTAL INSPECTION OFFICIALS, TH OPERATOR'S ENGINEER, AND THE OPERATOR FOR REVIEW UPON REQUEST DURING VISITS TO THE PROJECT SITE. IN ADDITION, COPIES OF THE REPORTS SHALL BE PROVIDED TO ANY OF THESE PERSONS, UPON REQUEST, VIA MAIL OR FACSIMILE

D. OTHER RECORD-KEEPING REQUIREMENTS

THE CONTRACTOR SHALL KEEP THE FOLLOWING RECORDS RELATED TO CONSTRUCTION ACTIVITIES AT THE SITE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR AND THE AREAS WHICH WERE

DATES AND DETAILS CONCERNING THE INSTALLATION OF STRUCTURAL DATES WHEN CONSTRUCTION ACTIVITIES CEASE IN AN AREA DATES WHEN AN AREAS IS STABILIZED, EITHER TEMPORARILY OR PERMANENTLY DATES OF RAINFALL AND THE AMOUNT OF RAINFALL DATES AND DESCRIPTIONS OF THE CHARACTER AND AMOUNT OF AN SPILLS OF HAZARDOUS MATERIALS RECORDS OF REPORTS FILED WITH REGULATORY AGENCIES IF REPORTABLE QUANTITIES OF HAZARDOUS MATERIALS SPILLED

STORMWATER POLLUTION PREVENTION PLAN (SPPP)

A. CONSTRUCTION ACTIVITY THAT MAY RESULT IN A STORMWATER DISCHARGI AUTHORIZED BY THIS PERMIT SHALL BE EXECUTED ONLY IN ACCORDANCE WITH A SPPP THAT CONSISTS OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN, AND (WHERE APPLICABLE) THE CONSTRUCTION SITE WASTE CONTROL COMPONENT SET FORTH IN ATTACHMENT B TO THE GENERAL PERMIT. A COPY OF THIS SPPP SHALL BE RETAINED BY THE PERMITTEE FOR A PERIOD OF AT LEAST FIVE ( YEARS AFTER THE COMPLETION OF CONSTRUCTION. THIS PERIOD MAY B EXTENDED BY WRITTEN REQUEST OF THE DEPARTMENT AT ANY TIME (SEE N.I.A.C

REPORTS OF NONCOMPLIANCE

A. ALL INSTANCES OF NONCOMPLIANCE NOT REPORTED UNDER N.J.A.C. 7:14A-6.10 SHALL BE REPORTED TO THE DEPARTMENT ANNUALLY.

NOTIFICATION OF COMPLETION A. THE SOIL CONSERVATION DISTRICT WILL PROVIDE THE DEPARTMENT A COPY OF 8. INTERMEDIATE SILT FENCE TO BE INSTALLED TO LIMIT SHEET FLOW TO 150 FEET THE REPORT OF COMPLIANCE ISSUED UNDER N.J.A.C. 2:90-I FOR COMPLETED ACROSS DISTURBED AREAS. CONSTRUCTION ACTIVITIES, EXCEPT SINGLE FAMILY HOME CONSTRUCTION UNDER B. BELOW. THE REPORT OF COMPLIANCE SHALL SERVE AS THE NOTIFICATION OF

B. THE BUILDER OF A SINGLE FAMILY HOME THAT IS AUTHORIZED UNDER THIS PERMIT, BUT NOT WITHIN THE DEFINITION OF "PROJECT AT N.J.S.A. 4:24-41G, SHALL SEND A COPY OF THE FINAL CERTIFICATE OF OCCUPANCY TO THE SOIL CONSERVATION DISTRICT, THE SOIL CONSERVATION DISTRICT WILL PROVIDE A COPY OF THE FINAL CERTIFICATE OF OCCUPANCY TO THE DEPARTMENT, WHICH WILL SERVE AS NOTIFICATION OF COMPLETION

C. THE DOT SHALL PROVIDE WRITTEN NOTIFICATION TO THE DEPARTMENT WHEN DOT CERTIFIED PROIECTS ARE COMPLETED.

COPIES OF ALL OF THE ABOVE, INCLUDING THE SPPP (WITH THE CERTIFIED PLAN), THE CERTIFICATION, AUTHORIZATION UNDER NJPDES CONSTRUCTION ACTIVITY STORMWATER GENERAL PERMIT, ALL CORRESPONDENCE AND NOTES TO AND FROM THE NIDEP AND SOIL CONSERVATION DISTRICT (OR DESIGNATED MUNICIPALITY) SHALL BE MAINTAINED ON-SITE.

#### CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE STORMWATER POLLUTION PREVENTION PLAN (SPPP)

MCNI-SOIL-NOTE-1200

THE CONSTRUCTION SITE WASTE CONTROL COMPONENT OF THE SPPP CONSISTS OF THE REQUIREMENTS IN 2., 3., AND 4. BELOW. THESE REQUIREMENTS BECAME OPERATIVE ON MARCH 3. 2004 AND APPLY TO CONSTRUCTION ACTIVITIES THAT COMMENCE ON OR AFTER MARCH 3, 2004. ANY NEW CONSTRUCTION ACTIVITY FOR WHICH AN RFA IS SUBMITTED ON OR AFTER MARCH 3, 2004 OR WHICH RECEIVE AUTOMATIC RENEWAL O AUTHORIZATION UNDER THIS PERMIT AFTER MARCH 3, 2004 ALSO SHALL COMPLY WITH

MATERIAL MANAGEMENT TO PREVENT OR REDUCE WASTE - ANY PESTICIDES, FERTILIZERS, FUELS, LUBRICANTS, PETROLEUM PRODUCTS, ANTI-FREEZE, PAINTS AND PAINT THINNERS. CLEANING SOLVENTS AND ACIDS. DETERGENTS. CHEMICAL ADDITIVES, AND CONCRETE CURING COMPOUNDS SHALL BE STORED IN CONTAINERS IN A DRY COVERED AREA, MANUFACTURERS' RECOMMENDED APPLICATION RATES, USES, AND METHODS SHALL BE STRICTLY FOLLOWED TO THE EXTENT NECESSARY T PREVENT OR MINIMIZE THE PRESENCE OF WASTE FROM SUCH MATERIALS IN THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT (THE PRECEDING SENTENCE DOES NOT APPLY TO ANY MANUFACTURERS' RECOMMENDATIONS ABOUT FERTILIZE OR OTHER MATERIAL THAT CONFLICT WITH THE EROSION AND SEDIMENT CONTROL COMPONENT OF THE FACILITY'S SPPP.)

WASTE HANDLING - THE FOLLOWING REQUIREMENTS APPLY ONLY TO CONSTRUCTION SITE WASTE THAT HAS THE POTENTIAL TO BE TRANSPORTED BY THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT. THE HANDLING AT THE CONSTRUCTION SITE OF WASTE BUILDING MATERIAL AND RUBBLE AND OTHER CONSTRUCTION SIT WASTES, INCLUDING LITTER AND HAZARDOUS AND SANITARY WASTES, SHALL CONFORM WITH THE STATE SOLID WASTE MANAGEMENT ACT, N.I.S.A. 13:1E-1 ET SEO., AND ITS IMPLEMENTING RULES AT N.J.A.C. 7:26, 7:26A, AND 7:26G; THE NEW JERSEY PESTICIDE CONTROL CODE AT N.J.A.C. 7:30; THE STATE LITTER STATUTE (N.J.S.A 13:1E-99.3): AND OSHA REQUIREMENTS FOR SANITATION AT 29 C.F.R. 1926 (EXCEPT WHERE SUCH CONFORMANCE IS NOT RELEVANT TO THE STORMWATER DISCHARGE AUTHORIZED BY THIS PERMIT). CONSTRUCTION SITES SHALL HAVE ONE OR MORE DESIGNATED WASTE COLLECTION AREAS ONSITE OR ADJACENT TO THE SITE, AND AN ADEQUATE NUMBER OF CONTAINERS (WITH LIDS OR COVERS) FOR WASTE. WASTE SHALL BE COLLECTED FROM SUCH CONTAINERS BEFORE THEY OVERFLOW, AND SPILLS AT SUCH CONTAINERS SHALL BE CLEANED UP IMMEDIATELY.

A. CONSTRUCTION SITE WASTES INCLUDE BUT ARE NOT LIMITED TO:

"CONSTRUCTION AND DEMOLITION WASTE." AS DEFINED IN N.I.A.C. 7:26-1.4 AS FOLLOWS: "WASTE BUILDING MATERIAL AND RUBBLE RESULTING FROM CONSTRUCTION, REMODELING, REPAIR, AND DEMOLITION OPERATIONS ON HOUSES, COMMERCIAL BUILDINGS, PAVEMENTS AND OTHER STRUCTURES, TH FOLLOWING MATERIALS MAY BE FOUND IN CONSTRUCTION AND DEMOLITION WASTE: TREATED AND UNTREATED WOOD SCRAP; TREE PARTS, TREE STUMPS AND BRUSH: CONCRETE, ASPHALT, BRICKS, BLOCKS AND OTHER MASONRY: PLASTER AND WALLBOARD: ROOFING MATERIALS: CORRUGATED CARDBOARD AN MISCELLANEOUS PAPER: FERROUS AND NON-FERROUS METAL: NON-ASBESTOS BUILDING INSULATION; PLASTIC SCRAP; DIRT; CARPETS AND PADDING; GLASS (WINDOW AND DOOR); AND OTHER MISCELLANEOUS MATERIALS; BUT SHALL NOT INCLUDE OTHER SOLID WASTE TYPES."

ii. ANY WASTE BUILDING MATERIAL AND RUBBLE RESULTING FROM SUCH OPERATIONS THAT IS HAZARDOUS FOR PURPOSES OF N.J.A.C. 7:26G (THE HAZARDOUS WASTE

iii. DISCARDED (INCLUDING SPILLED) PESTICIDES, FERTILIZERS, FUELS, LUBRICANTS, PETROLEUM PRODUCTS, ANTI-FREEZE, PAINTS AND PAINT THINNERS, PAINT CHIPS AND SANDBLASTING GRITS. CLEANING SOLVENTS. ACIDS FOR CLEANING MASONRY SURFACES, DETERGENTS, CHEMICAL ADDITIVES USED FOR SOIL STABILIZATION (E.G., CALCIUM CHLORIDE), AND CONCRETE CURING COMPOUNDS.

iv. OTHER "LITTER," AS DEFINED AT N.J.S.A. 13:1E-215.D AS FOLLOWS: "ANY USED OR UNCONSUMED SUBSTANCE OR WASTE MATERIAL WHICH HAS BEEN DISCARDED WHETHER MADE OF ALUMINUM, GLASS, PLASTIC, RUBBER, PAPER, OR OTHER NATURAL OR SYNTHETIC MATERIAL, OR ANY COMBINATION THEREOF, INCLUDING, BUT NOT LIMITED TO, ANY BOTTLE, JAR OR CAN, OR ANY TOP, CAP OR DETACHABLE TAB OF ANY BOTTLE, IAR OR CAN, ANY UNLIGHTED CIGARETTE, CIGAR, MATCH OR ANY FLAMING OR GLOWING MATERIAL OR ANY GARBAGE, TRASH, REFUSE, DEBRIS RUBBISH, GRASS CLIPPINGS OR OTHER LAWN OR GARDEN WASTE, NEWSPAPERS, MAGAZINES, GLASS, METAL, PLASTIC OR PAPER CONTAINERS OR OTHER PACKAGING OR CONSTRUCTION MATERIAL. BUT DOES NOT INCLUDE THE WASTE OF THE PRIMARY PROCESSES OF MINING OR OTHER EXTRACTION PROCESSES, LOGGING, SAWMILLING, FARMING OR MANUFACTURING." v. SANITARY SEWAGE AND SEPTAGE.

vi. CONTAMINATED SOILS ENCOUNTERED OR DISCOVERED DURING EARTHMOVING ACTIVITIES OR DURING THE CLEANUP OF A LEAK OR DISCHARGE OF A HAZARDOV

B. CONCRETE WASHOUT - CONCRETE WASHOUT ONSITE IS PROHIBITED OUTSIDE DESIGNATED AREAS. WASHOUT ACTIVITIES INCLUDE, BUT NOT LIMITED TO, THE WASHING OF TRUCKS, CHUTES, HOSES, MIXERS, HOPPERS, AND TOOLS.

. DESIGNATED WASHOUT AREAS SHALL BE LINED AND BERMED TO PREVENT DISCHARGES TO SURFACE AND GROUNDWATER. ii. HARDENED CONCRETE FROM THE CONCRETE WASHOUT WASHOUT SHALL BE

iii. THE CONCRETE WASHOUT AREA SHALL BE CLEARLY DESIGNATED WITH A SIGN INDICATING THE AREAS USES.

C. SANITARY SEWAGE/SEPTAGE DISPOSAL - DISCHARGES OF RAW SANITARY SEWAGE OF SEPTAGE ONSITE ARE STRICTLY PROHIBITED. ADEQUATE FACILITIES WITH PROPER DISPOSAL SHALL BE PROVIDED AND MAINTAINED ONSITE OR ADJACENT TO THE SITE FOR ALL WORKERS AND OTHER SANITARY NEEDS.

SPILLS; DISCHARGES OF HAZARDOUS SUBSTANCES; FEDERALLY REPORTABLE RELEASES. A. SPILL KITS SHALL BE AVAILABLE ONSITE OR ADJACENT TO THE SITE FOR ANY MATERIALS THAT ARE LISTED IN 2. ABOVE AND USED OR APPLIED ONSITE. ALL SPILLS OF SUCH MATERIAL SHALL BE CONTAINED AND CLEANED UP IMMEDIATELY. CLEANED UP MATERIALS SHALL BE PROPERLY DISPOSED OF.

B. DISCHARGES OF HAZARDOUS SUBSTANCES (AS DEFINED IN N.J.A.C. 7:1E-1.6) IN CONSTRUCTION SITE WASTES ARE SUBJECT TO THE PROVISIONS OF THE SPILI COMPENSATION AND CONTROL ACT, N.I.S.A. 58:10-23.11 ET SEQ., AND OF DEPARTMENT RULES FOR DISCHARGES OF PETROLEUM AND OTHER HAZARDOUS SUBSTANCES AT N.J.A.C. 7:1E. NO DISCHARGE OF HAZARDOUS SUBSTANCES RESULTING FROM AN ONSITE SPILL SHALL BE DEEMED TO BE "PURSUANT TO AND IN COMPLIANCE WITH [THIS] PERMIT" WITHIN THE MEANING OF THE SPILL COMPENSATION AND CONTROL ACT AT N.J.S.A. 58:10-23.11C.

C. RELEASES IN EXCESS OF REPORTABLE QUANTITIES (RQ) ESTABLISHED UNDER 40 C.F.R. 110, 117, AND 302 THAT OCCUR WITHIN A 24-HR PERIOD MUST BE REPORTED TO THE NATIONAL RESPONSE CENTER (800 424-8802).

#### SEQUENCE OF COMMERCIAL CONSTRUCTION

THE FOLLOWING SEQUENCE OF CONSTRUCTION WAS APPROVED AS PART OF THE RIVERTON VILLAGE PHASE I SITE PLAN APPLICATION (SOIL EROSION AND SEDIMENT CONTROL PLANS PREPARED BY MASER CONSULTING P.A. DATED MAY 15, 2019 AND REVISED THROUGH JULY 2, 2021) AND IS ACTIVELY UNDER IMPLEMENTATION. AS SUCH, THIS SEQUENCE OF CONSTRUCTION IS PROVIDED WITH THE UNDERSTANDING SOME TASKS HAVE ALREADY BEEN COMPLETED, SOME TASKS ARE IN PROGRESS / ONGOING, AND SOME TASKS ARE YET TO BE COMPLETED. THE SUBJECT BASS PRO BUILDING SITE IS LOCATED WITHIN THE AREA COVERED UNDER THE PRIOR SOIL EROSION AND SEDIMENT CONTROL (SESC) APPROVAL ISSUED FOR RIVERTON VILLAGE PHASE I. ONGOING AND NECESSARY ADDITIONAL SESC. MEASURES ASSOCIATED WITH THE BASS PRO BUILDING SITE SHALL BE PERFORMED IN COMPLIANCE WITH THIS SEQUENCE OF CONSTRUCTION AND THE RIVERTON VILLAGE PHASE I SESC APPROVAL.

I. INSTALLATION OF STONE CONSTRUCTION ENTRANCE PAD. SILT FENCE TO BE INSTALLED IMMEDIATELY DOWNSTREAM PRIOR TO ANY DISTURBANCE FOR ENTRANCE PAD.

2. INSTALL PERIMETER SILT FENCE. (I MONTH)

3. PREPARE SEDIMENT BASIN #1 (PRIMARY LAGOON) (1 MONTH). 4. REMOVE EXISTING STOCKPILES ADJACENT TO PRIMARY LAGOON, BASS PRO SITE AND VILLAGE. (3 MONTHS)

5. SITE GRADING INCLUDING FILL AT CHEVALIER AVENUE. (9 MONTHS) 6. INSTALL CULVERT 'B'. HEADWALLS AND SCOUR HOLES TO RARITAN RIVER. CONTRACTOR RESPONSIBLE TO ENSURE NO SEDIMENT OR IMPACTED WATER IS DISCHARGED TO THE RARITAN RIVER AT ANY TIME DURING CONSTRUCTION. CONTRACTOR TO PROVIDE WRITTEN PLAN AND SITE SPECIFIC DETAILS FOR CULVERT INSTALLATION TO MASER CONSULTING P.A., BOROUGH ENGINEER AND

SAYREVILLE SEAPORT ASSOCIATES PRIOR TO CONSTRUCTION. (2 MONTHS)

7. CONSTRUCT WET POND AND CONDUIT OUTLET PROTECTION. (6 MONTHS)

9. CONTINUALLY MAINTAIN SOIL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT CONSTRUCTION. 10. CONSTRUCT PUMP STATION (3 MONTHS)

II. CONSTRUCT ROADS, INCLUDING CHEVALIER AVENUE (NO PAVEMENT SURFACE COURSE) & UTILITIES (12 MONTHS) 12. BUILDING CONSTRUCTION (ON-GOING)

13. INSTALL LANDSCAPING (6 MONTHS) 14. INSTALL FINAL PAVEMENT COURSE AT PARKING LOTS AND ALL ROADS INCLUDING CHEVALIER AVENUE UPON COMPLETION OF ALL BUILDING

CONSTRUCTION IN AREAS TO BE PAVED (4 MONTHS) 15. STABILIZE WORK AREA ACCORDING TO PERMANENT SEEDING SPECIFICATIONS. (2

16. REMOVE CONSTRUCTION ACCESS, SILT FENCE, INLET PROTECTION, AND ALL OTHER TEMPORARY SOIL EROSION AND SEDIMENT CONTROL MEASURES UPON PERMANENT STABILIZATION OF ALL DISTURBED AREAS AND ACCEPTANCE BY BOROUGH ENGINEER. (2 WEEKS)

#### STANDARD FOR VEGETATIVE COVER

3/I - 4/30 (ZONE 6b); SUMMER SEEDING DATES \* 5/I - 8/I4 (ZONE 6b)

\* NOTE: SUMMER SEEDING SHOULD ONLY BE CONDUCTED WHEN THE SITE IS IRRIGATED. MIXES INCLUDING WHITE CLOVER REQUIRE THAT AT LEAST SIX WEEKS OF GROWING SEASON REMAIN AFTER SEEDING TO ENDURE ESTABLISHMENT BEFORE FREEZING CONDITIONS

20 LBS/ACRE

2 LBS/ACRE

15 LBS/ACRE

25 LBS/ACRE

2. DETENTION BASINS: DEERTONGUE REDTOP

A. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL EQUIPMENT FOR

GRADING SHOULD BE DONE IN ACCORDANCE WITH STANDARD FOR LAND GRADING.

SEEDBED PREPARATION, SEEDING, MULCH APPLICATION, AND MULCH ANCHORING, ALL

B. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SUBSOIL SHALL BE

EVALUATED FOR COMPACTION IN ACCORDANCE WITH THE STANDARD FOR LAND GRADING.

TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK WITHOUT

DAMAGING THE SOIL STRUCTURE. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5

INCHES, MINIMUM OF 4 INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE

APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIFLDS, LANDFILL CAPPING FTC. TOPSOIL

SHALL BE AMENDED WITH ORGANIC MATTER, AS NEEDED, IN ACCORDANCE WITH THE

d. Install needed erosion control practices or facilities such as diversions,

GRADE-STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENT BASINS,

A. UNIFORMLY APPLY GROUND LIMESTONE AND FERTILIZER TO TOPSOIL WHICH HAS BEEN

SPREAD AND FIRMED, ACCORDING TO SITE SPECIFIC SOIL TEST RECOMMENDATIONS SUCH AS

OFFERED BY RUTGERS CO-OPERATIVE EXTENSION. SOIL SAMPLE MAILERS ARE AVAILABLE FROM

THE LOCAL RUTGERS COOPERATIVE EXTENSION OFFICES

FOR TEMPORARY SEEDING: FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER

ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-20-10 OR EQUIVALENT WITH 50% WATER

INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE. LIMING RATE SHALL BE

b. FOR PERMANENT SEEDING: FERTILIZER SHALL BE APPLIED AT THE RATE OF 500 POUNDS PER

ACRE OR 11 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 OR EQUIVALENT WITH 50% WATER

INSOLUBLE NITROGEN UNLESS A SOIL TEST INDICATES OTHERWISE AND INCORPORATED

INTO THE SURFACE 4 INCHES. IF FERTILIZER IS NOT INCORPORATED. APPLY ONE-HALF THE

RATE DESCRIBED ABOVE DURING SEEDBED PREPARATION AND REPEAT ANOTHER ONE-HALF

WORK LIME AND FERTILIZER INTO THE TOPSOIL AS NEARLY AS PRACTICAL TO A DEPTH OF 4

INCHES WITH A DISC, SPRING-TOOTH HARROW, OR OTHER SUITABLE EQUIPMENT. THE FINAL

C. HIGH ACID PRODUCING SOIL. SOILS HAVING A PH OF 4 OR LESS OR CONTAINING IRON SULFIDE

SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF SOIL HAVING A PH OF 5 OR MORE

BEFORE INITIATING SEEDBED REPARATION. SEE STANDARD FOR MANAGEMENT OF HIGH

D. IMMEDIATELY PRIOR TO SEEDING AND TOPSOIL APPLICATION, THE SURFACE SHOULD BE

SCARIFIED 6" TO 12" WHERE THERE HAS BEEN SOIL COMPACTION. THIS PRACTICE IS PERMISSIBLE

ONLY WHERE THERE IS NO DANGER TO UNDERGROUND UTILITIES (CABLES, IRRIGATION

REMOVE FROM THE SURFACE ALL STONES 2 INCHES OR LARGER IN ANY DIMENSION AND

OTHER DEBRIS SUCH AS WIRE, TREE ROOTS, PIECES OF CONCRETE, CLODS, LUMPS OR OTHER

A. TEMPORARY SEEDING SPECIFICATIONS - TEMPORARY VEGETATIVE COVER SHALL CONSIST OF

PERENNIAL RYEGRASS APPLIED UNIFORMLY AT A RATE OF 1.0 POUNDS PER 1.000 SO.FT. (100

LBS/ACRE), OR A MIXTURE FROM TABLE 7-2 OF THE STANDARDS APPROVED BY THE SOIL

S. PERMANENT SEEDING SPECIFICATIONS - SELECT AN APPROVED MIXTURE FROM THOSE LISTED

BELOW, AN APPROVED MIXTURE FROM TABLE 4-3 OF THE STANDARDS, OR USE A MIXTURE

RECOMMENDED BY RUTGERS COOPERATIVE EXTENSION OR NATURAL RESOURCES

CONSERVATION SERVICE WHICH IS APPROVED BY THE SOIL CONSERVATION DISTRICT. SEED

GERMINATION SHALL HAVE BEEN TESTED WITHIN 12 MONTHS OF THE PLANTING DATE. NO

SEED SHALL BE ACCEPTED WITH A GERMINATION TEST DATE MORE THAN 12 MONTHS OLD

UNLESS RETESTED. SEED SHALL BE APPLIED AS NOTED BELOW WITHIN THE DATES SPECIFIED IN

130 LBS/ACRE

45 LBS/ACRE

10 LBS/ACRE

90 LBS/ACRE

HARROWING OR DISKING OPERATION SHOULD BE ON THE GENERAL CONTOUR. CONTINUE

RATE APPLICATION OF THE SAME FERTILIZER WITHIN 3 TO 5 WEEKS AFTER SEEDING.

TILLAGE UNTIL A REASONABLE UNIFORM SEEDBED IS PREPARED

SYSTEMS, ETC.). SEE "SOIL DECOMPACTION AND TESTING REQUIREMENTS".

MIX #15 (WELL TO MODERATELY DRAINED SOIL):

STRONG CREEPING RED FESCUE 45 LBS/ACRE

STRONG CREEPING RED FESCUE 130 LBS/ACRE

STANDARD FOR TOPSOILING

A. TOPSOIL SHOULD BE FRIABLE, LOAMY, FREE OF DEBRIS, OBJECTIONABLE WEEDS AND

STONES, AND CONTAIN NO TOXIC SUBSTANCE OR ADVERSE CHEMICAL OR

PHYSICAL CONDITION THAT MAY BE HARMFUL TO PLANT GROWTH. FRIABLE

MEANS EASILY CRUMBLES IN THE FINGERS, AS DEFINED IN MOST SOILS TEXTS. LOAMY

MEANS TEXTURE GROUPS CONSISTING OF COARSE LOAMY SANDS, SANDY LOAM,

FINE AND VERY FINE SANDY LOAM, LOAM, SILT LOAM, CLAY LOAM, SANDY CLAY

LOAM AND SILTY CLAY LOAM TEXTURES AND HAVING LESS THAN 35% COARSE

FRAGMENTS (PARTICLES LESS THAN 2MM IN SIZE) AS DEFINED IN THE GLOSSARY OF

SOIL SCIENCE TERMS, 1996, SOIL SCIENCE SOCIETY OF AMERICA, SOLUBLE SALTS

SHOULD NOT BE EXCESSIVE (CONDUCTIVITY LESS THAN 0.5 MILLIMHOS PER

CENTIMETER. MORE THAN 0.5 MILLIMHOS MAY DESICCATE SEEDLINGS AND

ADVERSELY IMPACT GROWTH). IMPORTED TOPSOIL SHALL HAVE A MINIMUM

ORGANIC MATTER CONTENT OF 2.75 PERCENT. ORGANIC MATTER CONTENT MAY

B. TOPSOIL SUBSTITUTE IS A SOIL MATERIAL WHICH MAY HAVE BEEN AMENDED WITH

SAND, SILT, CLAY, ORGANIC MATTER, FERTILIZER OR LIME AND HAS THE

APPEARANCE OF TOPSOIL TOPSOIL SUBSTITUTES MAY BE UTILIZED ON SITES WITH

INSUFFICIENT TOPSOIL FOR ESTABLISHING PERMANENT VEGETATION. ALL TOPSOIL

SUBSTITUTE MATERIALS SHALL MEET THE REQUIREMENTS OF TOPSOIL NOTED

ABOVE. SOIL TESTS SHALL BE PERFORMED TO DETERMINE THE COMPONENTS OF

A. FIELD EXPLORATION SHOULD BE MADE TO DETERMINE WHETHER QUANTITY AND

C. WHERE FEASIBLE, LIME MAY BE APPLIED BEFORE STRIPPING AT A RATE DETERMINED

D. A 4-6 INCH STRIPPING DEPTH IS COMMON, BUT MAY VARY DEPENDING ON THE

E. STOCKPILES OF TOPSOIL SHOULD BE SITUATED SO AS NOT TO OBSTRUCT NATURAL

F. STOCKPILES SHOULD BE VEGETATED IN ACCORDANCE WITH THE STANDARD FOR

A. GRADE AT THE ONSET OF THE OPTIMAL SEEDING PERIOD SO AS TO MINIMIZE THE

B. GRADE AS NEEDED AND FEASIBLE TO PERMIT THE USE OF CONVENTIONAL

EQUIPMENT FOR SEEDBED PREPARATION, SEEDING, MULCH APPLICATION AND

ANCHORING, AND MAINTENANCE. ALL GRADING SHOULD BE DONE IN

C. AS GUIDANCE FOR IDEAL CONDITIONS, SUBSOIL SHOULD BE TESTED FOR LIME

D. PRIOR TO TOPSOILING, THE SUBSOIL SHALL BE IN COMPLIANCE WITH THE

E. EMPLOY NEEDED EROSION CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE

A. TOPSOIL SHOULD BE HANDLED ONLY WHEN IT IS DRY ENOUGH TO WORK

B. A UNIFORM APPLICATION TO AN AVERAGE DEPTH OF 5.0 INCHES, MINIMUM OF 4

INCHES, FIRMED IN PLACE IS REQUIRED. ALTERNATIVE DEPTHS MAY BE CONSIDERED

WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE

APPROPRIATE SUCH AS ON GOLF COURSES, SPORTS FIELDS, LANDFILL CAPPING, ETC...

SOILS WITH A PH OF 4.0 OR LESS OR CONTAINING IRON SULFIDE SHALL BE COVERED

WITH A MINIMUM DEPTH OF 12 INCHES OF SOIL HAVING A PH OF 5.0 OR MORE, IN

ACCORDANCE WITH THE STANDARD FOR MANAGEMENT OF HIGH ACID

C. PURSUANT TO THE REQUIREMENTS OF THE STANDARD FOR PERMANENT

VEGETATIVE STABILIZATION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT

PERMANENT VEGETATIVE COVER BECOMES ESTABLISHED ON AT LEAST 80% OF THE

COVERAGE MAY REQUIRE ADDITIONAL WORK TO BE PERFORMED BY THE

CONTRACTOR TO INCLUDE SOME OR ALL OF THE FOLLOWING: SUPPLEMENTAL SEEDING, RE-APPLICATION OF LIME AND FERTILIZERS, AND/OR THE ADDITION OF ORGANIC MATTER (I.E. COMPOST) AS A TOP DRESSING. SUCH ADDITIONAL MEASURES SHALL BE BASED ON SOIL TESTS SUCH AS THOSE OFFERED BY RUTGERS COOPERATIVE EXTENSION SERVICE OR OTHER APPROVED LABORATORY FACILITIES

QUALIFIED TO TEST SOIL SAMPLES FOR AGRONOMIC PROPERTIES.

SOILS TO BE STABILIZED WITH VEGETATION FAILURE TO ACHIEVE THE MINIMUM

WITHOUT DAMAGING SOIL STRUCTURE; I.E., LESS THAN FIELD CAPACITY.

STABILIZATION STRUCTURES, CHANNEL STABILIZATION MEASURES, SEDIMENTATION

REQUIREMENT, LIMESTONE, IF NEEDED, SHOULD BE APPLIED TO BRING SOIL TO A PH

OF APPROXIMATELY 6.5 AND INCORPORATED INTO THE SOIL AS NEARLY AS

DURATION AND AREA OF EXPOSURE OF DISTURBED SOIL TO EROSION.

IMMEDIATELY PROCEED TO ESTABLISH VEGETATIVE COVER IN ACCORDANCE WITH

VEGETATIVE COVER FOR SOIL STABILIZATION. WEEDS SHOULD NOT BE ALLOWED

SAND, SILT, CLAY, ORGANIC MATTER, SOLUBLE SALTS AND PH LEVEL.

B. STRIPPING SHALL BE CONFINED TO THE IMMEDIATE CONSTRUCTION AREA.

BY SOIL TESTS TO BRING THE SOIL PH TO APPROXIMATELY 6.5.

DRAINAGE OR CAUSE OFF-SITE ENVIRONMENTAL DAMAGE.

THE SPECIFIED SEED MIXTURE. TIME IS OF THE ESSENCE.

PRACTICAL TO A DEPTH OF 4 INCHES.

BASINS, AND WATERWAYS.

APPLYING TOPSOIL

PRODUCING SOIL

ACCORDANCE WITH THE STANDARD FOR LAND GRADING.

OR QUALITY OF SURFACE SOIL JUSTIFIES STRIPPING.

ACID-PRODUCING SOILS FOR SPECIFIC REQUIREMENTS.

UNSUITABLE MATERIAL.

CONSERVATION DISTRICT

THE STANDARDS:

HARD FESCUE

CHEWING FESCUE

PERENNIAL RYEGRASS

ROUGH BLUEGRASS

**OPTIMUM SEEDING DATES:** 

**ACCEPTABLE SEEDING DATES:** 

8/15 - 10/15 (ZONE 6b);

BE RAISED BY ADDITIVES.

STRIPPING AND STOCKPILING

PARTICULAR SOIL.

TO GROW ON STOCKPILES.

MIX #16 (POORLY DRAINED SOIL)

STANDARD FOR TOPSOILING.

(HTTP://NJAES.RUTGERS.EDU/COUNTY/).

AND WATERWAYS.

CONSIDERED WHERE SPECIAL REGULATORY AND/OR INDUSTRY DESIGN STANDARDS ARE

WILD RYE (ELYMUS) SWITCHGRASS OPTIMUM SEEDING DATES:

3/I - 4/30 (Zone 6b)

C. CONVENTIONAL SEEDING IS PERFORMED BY APPLYING SEED UNIFORMLY BY HAND, CYCLONE (CENTRIFUGAL) SEEDER, DROP SEEDER, DRILL OR CULTIPACKER SEEDER. EXCEPT FOR DRILLED, HYDROSEEDED OR CULTIPACKED SEEDINGS. SEED SHALL BE INCORPORATED INTO THE SOIL WITHIN 24 HOURS OF SEEDBED PREPARATION TO A DEPTH OF 1/4 TO 1/2 INCH, BY RAKING OR DRAGGING. DEPTH OF SEED PLACEMENT MAY BE 1/4 INCH DEEPER ON COARSE-TEXTURED SOIL.

SEED-TO-SOIL CONTACT, RESTORE CAPILLARITY, AND IMPROVE SEEDLING EMERGENCE, THIS IS THE PREFERRED METHOD. WHEN PERFORMED ON THE CONTOUR, SHEET EROSION WILL BE MINIMIZED AND WATER CONSERVATION ON SITE WILL BE MAXIMIZED. E. HYDROSEEDING IS A BROADCAST SEEDING METHOD USUALLY INVOLVING A TRUCK, OR

D. AFTER SEEDING, FIRMING THE SOIL WITH A CORRUGATED ROLLER WILL ASSURE GOOD

TRAILER-MOUNTED TANK, WITH AN AGITATION SYSTEM AND HYDRAULIC PUMP FOR MIXING SEED WATER AND FERTILIZER AND SPRAYING THE MIX ONTO THE PREPARED SEEDRED MULICH SHALL NOT BE INCLUDED IN THE TANK WITH SEED. SHORT-FIBERED MULCH MAY BE APPLIED WITH A HYDROSEEDER FOLLOWING SEEDING. (ALSO SEE SECTION 4 - MULCHING BELOW). HYDROSEEDING IS NOT A PREFERRED SEEDING METHOD BECAUSE SEED AND FERTILIZER ARE APPLIED TO THE SURFACE AND NOT INCORPORATED INTO THE SOIL. WHEN POOR SEED TO SOIL CONTACT OCCURS, THERE IS A REDUCED SEED GERMINATION AND GROWTH.

MULCHING IS REQUIRED ON ALL SEEDING. MULCH WILL PROTECT AGAINST EROSION BEFORE GRASS IS ESTABLISHED AND WILL PROMOTE FASTER AND EARLIER ESTABLISHMENT. THE EXISTENCE OF VEGETATION SUFFICIENT TO CONTROL SOIL EROSION SHALL BE DEEMED COMPLIANCE WITH THIS MULCHING REQUIREMENT.

A. STRAW OR HAY. UNROTTED SMALL GRAIN STRAW, HAY FREE OF SEEDS, TO BE APPLIED AT THE RATE OF 1-1/2 TO 2 TONS PER ACRE (70 TO 90 POUNDS PER 1.000 SOUARE FEET). EXCEPT THAT WHERE A CRIMPER IS USED INSTEAD OF A LIQUID MULCH-BINDER (TACKIFYING OR ADHESIVE AGENT). THE RATE OF APPLICATION IS 3 TONS PER ACRE. MULCH CHOPPER-BLOWERS MUST NOT GRIND THE MULCH. HAY MULCH IS NOT RECOMMENDED FOR ESTABLISHING FINE TURF OR LAWNS DUE TO THE PRESENCE OF WEED SEED.

85% OF THE SOIL SURFACE IS COVERED. FOR UNIFORM DISTRIBUTION OF HAND-SPREAD MULCH, DIVIDE AREA INTO APPROXIMATELY 1,000 SQUARE FEET SECTIONS AND DISTRIBUTE 70 TO 90 POUNDS WITHIN EACH SECTION. ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY

APPLICATION - SPREAD MULCH UNIFORMLY BY HAND OR MECHANICALLY SO THAT AT LEAST

WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE AREA, STEEPNESS OF SLOPES, AND COSTS.

I. PEG AND TWINE - DRIVE 8 TO 10 INCH WOODEN PEGS TO WITHIN 2 TO 3 INCHES OF THE SOIL SURFACE EVERY 4 FEET IN ALL DIRECTIONS. STAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE MULCH TO SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS AND A SQUARE PATTERN. SECURE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.

SURFACE. USE A DEGRADABLE NETTING IN AREAS TO BE MOWED. 3. CRIMPER (MULCH ANCHORING COULTER TOOL) - A TRACTOR-DRAWN IMPLEMENT, SOMEWHAT LIKE A DISC HARROW, ESPECIALLY DESIGNED TO PUSH OR CUT SOME OF THE

BROADCAST LONG FIBER MULCH 3 TO 4 INCHES INTO THE SOIL SO AS TO ANCHOR IT AND

2. MULCH NETTINGS - STAPLE PAPER, JUTE, COTTON, OR PLASTIC NETTINGS TO THE SOIL

LEAVE PART STANDING UPRIGHT. THIS TECHNIQUE IS LIMITED TO AREAS TRAVERSABLE BY A TRACTOR, WHICH MUST OPERATE ON THE CONTOUR OF SLOPES. STRAW MULCH RATE MUST BE 3 TONS PER ACRE. NO TACKIFYING OR ADHESIVE AGENT IS REQUIRED. 4. LIQUID MULCH-BINDERS - MAY BE USED TO ANCHOR SALT HAY, HAY OR STRAW MULCH.

b. USE ONE OF THE FOLLOWING:

I) ORGANIC AND VEGETABLE BASED BINDERS - NATURALLY OCCURRING,

a. APPLICATIONS SHOULD BE HEAVIER AT EDGES WHERE WIND MAY CATCH THE MULCH, IN

VALLEYS, AND AT CRESTS OF BANKS. THE REMAINDER OF THE AREA SHOULD BE UNIFORM

POWDER-BASED. HYDROPHILIC MATERIALS WHEN MIXED WITH WATER FORMULATES A GEL AND WHEN APPLIED TO MULCH UNDER SATISFACTORY CURING CONDITIONS WILL FORM MEMBRANED NETWORKS OF INSOLUBLE POLYMERS. THE VEGETABLE GE SHALL BE PHYSIOLOGICALLY HARMLESS AND NOT RESULT IN A PHYTOTOXIC EFFECT OR IMPEDE GROWTH OF TURE GRASS, USE AT RATES AND WEATHER CONDITIONS AS RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH MATERIALS. MANY NEW PRODUCTS ARE AVAILABLE, SOME OF WHICH MAY NEED FURTHER EVALUATION FOR USE IN THIS STATE.

2) SYNTHETIC BINDERS - HIGH POLYMER SYNTHETIC EMULSION, MISCIBLE WITH WATER WHEN DILUTED AND, FOLLOWING APPLICATION OF MULCH, DRYING AND CURING. SHALL NO LONGER BE SOLUBLE OR DISPERSIBLE IN WATER. BINDER SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURER AND REMAIN TACKY UNTIL GERMINATION OF GRASS.

NOTE: ALL NAMES GIVEN ABOVE ARE REGISTERED TRADE NAMES. THIS DOES NOT CONSTITUTE A RECOMMENDATION OF THESE PRODUCTS TO THE EXCLUSION OF OTHER PRODUCTS.

. PELLETIZED MULCH - COMPRESSED AND EXTRUDED PAPER AND/OR WOOD FIBER PRODUCT,

B. WOOD-FIBER OR PAPER-FIBER MULCH - SHALL BE MADE FROM WOOD, PLANT FIBERS OR PAPER CONTAINING NO GROWTH OR GERMINATION INHIBITING MATERIALS. USED AT THE RATE OF 1.500 POUNDS PER ACRE (OR AS RECOMMENDED BY THE PRODUCT MANUFACTURER) AND MAY BE APPLIED BY A HYDROSEEDER. MULCH SHALL NOT BE MIXED IN THE TANK WITH SEED. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.

WHICH MAY CONTAIN CO-POLYMERS TACKIFIERS FERTILIZERS AND COLORING AGENTS THE DRY PELLETS. WHEN APPLIED TO A SEEDED AREA AND WATERED, FORM A MULCH MAT. PELLETIZED MULICH SHALL RE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MULCH MAY BE APPLIED BY HAND OR MECHANICAL SPREADER AT THE RATE OF 60-75 LBS/I,000 SQUARE FEET AND ACTIVATED WITH 0.2 TO 0.4 INCHES OF WATER. THIS MATERIAL HAS BEEN FOUND TO BE BENEFICIAL FOR USE ON SMALL LAWN OR RENOVATION AREAS, SEEDED AREAS WHERE WEED- SEED FREE MULCH IS DESIRED, OR ON SITES WHERE STRAW MULCH AND TACKIFIER AGENT ARE NOT PRACTICAL OR DESIRABLE. APPLYING THE FULL 0.2 TO 0.4 INCHES OF WATER AFTER SPREADING PELLETIZED MULCH ON THE SEED BED IS EXTREMELY IMPORTANT FOR SUFFICIENT ACTIVATION AND EXPANSION OF THE MULCH TO PROVIDE SOIL COVERAGE.

. IRRIGATION (WHERE FEASIBLE): IF SOIL MOISTURE IS DEFICIENT SUPPLY NEW SEEDING WITH ADEQUATE WATER (A MINIMUM OF 1/4 INCH APPLIED UP TO TWICE A DAY UNTIL VEGETATION IS WELL ESTABLISHED). THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE IN ABNORMALLY DRY OR HOT WEATHER OR ON DROUGHTY

NO FOLLOW-UP TOPDRESSING IS MANDATORY UNLESS WHERE GROSS NITROGEN DIFICIENCY EXISTS IN THE SOIL TO THE EXTENT THAT TURF FAILURE MAY DEVELOP. IN THAT INSTANCE, TOPDRESS WITH 10-10-10 OR EOUIVALENT AT 300 LB PER ACRE OR 7 LB PER 1.000 SF EVERY 3 TO 5 WEEKS UNTIL THE GROSS NITROGEN DEFICIENCY IN THE TURF IS AMELIORATED.

ESTABLISHING PERMANENT VEGETATIVE STABILIZATION: THE QUALITY OF PERMANENT VEGETATION RESTS WITH THE CONTRACTOR. THE TIMING OF SEEDING, PREPARING THE SEEDBED, APPLYING NUTRIENTS, MULCH AND OTHER MANAGEMENT ARE ESSENTIAL. THE SEED APPLICATION RATES IN TABLE 4-2 ARE REQUIRED WHEN A REPORT OF COMPLIANCE IS REQUESTED PRIOR TO ACTUAL ESTABLISHMENT OF PERMANENT VEGETATION. UI TO 50% REDUCTION IN APPLICATION RATES MAY BE USED WHEN PERMANENT VEGETATION IS ESTABLISHED PRIOR TO REQUESTING A REPORT OF COMPLIANCE FROM THE DISTRICT. THESE RATES APPLY TO ALL METHODS OF SEEDING. ESTABLISHING PERMANENT VEGETATION MEANS 80% VEGETATIVE COVER (OF THE SEEDED SPECIES) AND MOWED ONCE. NOTE THIS DESIGNATION OF MOWED ONCE DOES NOT GUARANTEE THE PERMANENCY OF THE TURF

SHOULD OTHER MAINTENANCE FACTORS BE NEGLECTED OR OTHERWISE MISMANAGED.

8. SEEDING MIX FOR PDM SOILS APPLY THE FOLLOWING SEED MIX AT A RATE OF 100 LBS/ACRE: 30% CREEPING RED FESCUE

30% TALL FESCUE 15% ALKALIGRASS 10% SWITCHGRASS 5% BIRDSFOOT TREFOIL 5% ALSIKE CLOVER

5% SWITCHGRASS

ALSO APPLY THE FOLLOWING COVER CROP DEPENDING ON THE TIME OF SEEDING: SUMMER OR FALL ( JUNE THRU SEPTEMBER):

SPRING (APRIL 15 THRU MAY): ANNUAL RYEGRASS AT A RATE OF 20LBS/ACRE

FERTILIZER 10-20-10:NPR @ 100LBS/ACRE.

PERENNIAL RYEGRASS AT A RATE OF 20LBS/ACRE

COLLECT (I) SOIL PH TEST PER ACRE. IF PH>0 THEN APPLY PASTILLE SULFUR SHALL BE APPLIED AT A RATE OF 100LBS/ACRE.

### DUST CONTROL

MCNJ-SOIL-NOTE-1400 05/01/17 PPLICABILIT' EXPOSED SOIL SURFACES SUBJECT TO DUST BLOWING MUST BE TREATED FOR DUST CONTROL PER THE METHODS OUTLINED BELOW. TREATED AREAS ARE TO BE MONITORED AND RETREATED AS NECESSARY.

UST CONTROL METHODS APPLY MULCHES OR VEGETATIVE COVER AS PER NJ SOIL EROSION AND SEDIMENT CONTROL STANDARDS. TILL AND ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS A TEMPORARY EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART AND SPRING-TOOTHED HARROWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT. SPRINKLE THE SITE UNTIL THE SURFACE IS WET.

ERECT BARRIERS SUCH AS SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL TO CONTROL AIR CURRENTS AND SOIL BLOWING APPLY CALCIUM CHLORIDE IN THE FORM OF LOOSE, DRY GRANULES OR FLAKES FINE ENOUGH TO FEED THROUGH COMMONLY USED SPREADERS AT A RATE THAT WILL KEEP SURFACE MOIST BUT NOT CAUSE POLLUTION OR PLANT DAMAGE. NOT SUITABLE ON STEEPER SLOPES NEAR THE STREAMS OR POTENTIALLY ACCUMULATE AROUND PLANTS

COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL USE SPRAY-ON ADHESIVE ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. MATERIALS AS FOLLOWS: CONTRACTOR TO USE EARTH GUARD & DUST CONTROL DG FROM LSC ENVIRONMENTAL PRODUCTS LLC OR APPROVED EQUAL.

MATERIAL	WATER DILUTION	TYPE OF NOZZLE	APPLY GALLONS/ACRE
ANIONIC ASPHALT EMULSION	7:1	COARSE SPRAY	1200
LATEX EMULSION	12.5:1	FINE SPRAY	235
RESIN IN WATER	4:1	FINE SPRAY	300
POLYACRYLAMIDE (PAM) - SPRAY ON POLYACRYLAMIDE (PAM) - DRY SPREAD	APPLY ACCORDING TO MANUFACTURER'S INSTRUCTIONS. MAY ALSO BE USED AS AN ADDITIVE TO SEDIMENT BASINS TO FLOCCULATE AND PRECIPITATE SUSPENDED COLLOIDS. SEE SEDIMENT BASIN STANDARD, P. 26-I		
ACIDULATED SOY BEAN	NONE	COARSE SPRAY	1200

## PUBLIC RIGHT ENGTH OF STONE REQUIRED GEOTEXTILE LENGTH OF STONE REQUIRED SEE TABLE FABRIC PUBLIC RIGHT **EXISTING GROUND** \_\_\_\_

THE WIDTH OF CONSTRUCTION ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF POINTS OF INGRESS OR EGRESS, OR AS SHOWN ON THE PLAN. THICKNESS SHOWN IS FOR STONE CONSTRUCTION ENTRANCE ONLY.

THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT

TRACKING OR FLOWING OF SEDIMENT ONTO ROADWAYS. THE ENTRANCE SHALL BE PERIODICALLY TOP DRESSED WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS ON-SITE CONDITIONS REQUIRE.

SPILLED, DROPPED, WASHED, OR TRACKED SEDIMENT ONTO ROADWAYS OR OTHER MPERVIOUS SURFACES SHALL BE REMOVED IMMEDIATELY WHERE ACCUMULATION OF DUST AND SEDIMENT IS INADEQUATELY CLEANED OR REMOVED BY CONVENTIONAL METHODS, A POWER BROOM OR STREET SWEEPER SHALL BE USED TO CLEAN PAVED AREAS.

ALL OTHER ACCESS POINTS TO THE SITE WHICH DO NOT CONTAIN A CONSTRUCTION ACCESS PAD SHALL BE BLOCKED OFF 8. STONE SIZE PER ASTM C-33, SIZE #2 ( $2\frac{1}{2}$ " TO  $1\frac{1}{2}$ ") OR #3 (2" TO 1") STONE.

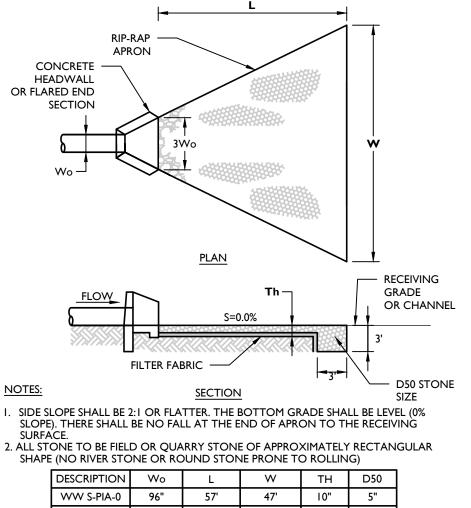
TO 2") STONE, MINIMUM 10' (L) imes 10' (W) and 6" Thick. PERCENT SLOPE OF LENGTH OF STONE REQUIRED OARSE GRAINED SOILS FINE GRAINED SOILS 100 FT 0% TO 2% 2% TO 5% NTIRE SURFACE STABILIZED WITH HMA BASE COURSE,

INDIVIDUAL INTERIOR LOT INGRESS/EGRESS CONSTRUCTION ACCESS SHALL HAVE # 3 (I"

MIX I-2

#### STABILIZED CONSTRUCTION ACCESS DETAIL

MOD: 7/24/20



WW S-PIB-0 60" 41' 32' 10" 5"

WW S-PIC-0 96" 57' 47' 10" 5"

CONDUIT OUTLET

PROTECTION DETAIL

<u>FLOW</u> GRADE P-RAP (SEE CHART) FOR SIZE AND THICKNESS ALL STONE TO BE FIELD OR OUARRY STONE OF APPROXIMATELY RECTANGULAR SHAPE (NO RIVER STONE OR ROUND STONE PRONE TO ROLLING)

 
 DESCRIPTION
 Do
 Wo
 L
 W
 TH
 d
 D50

 WW B-10
 18"
 18"
 9'
 7.5'
 2.33'
 0.75'
 14"
 PREFORMED SCOUR HOLE DETAIL

NOT TO SCALE MCNI-SOIL-EROS-170

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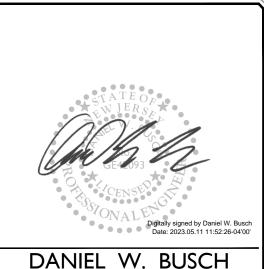
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SURFACE ANYWHERE IN ANY STATE



NEW JERSEY PROFESSIONAL **ENGINEER - LICENSE NUMBER: GE42093** PHASE 1A BASS PRO

**BUILDING SITE** 

**SAYREVILLE SEAPORT ASSOCIATES** 

BLOCK 257.02

LOT 7

**BOROUGH OF SAYREVILLI** MIDDLESEX COUNTY **NEW JERSEY** 

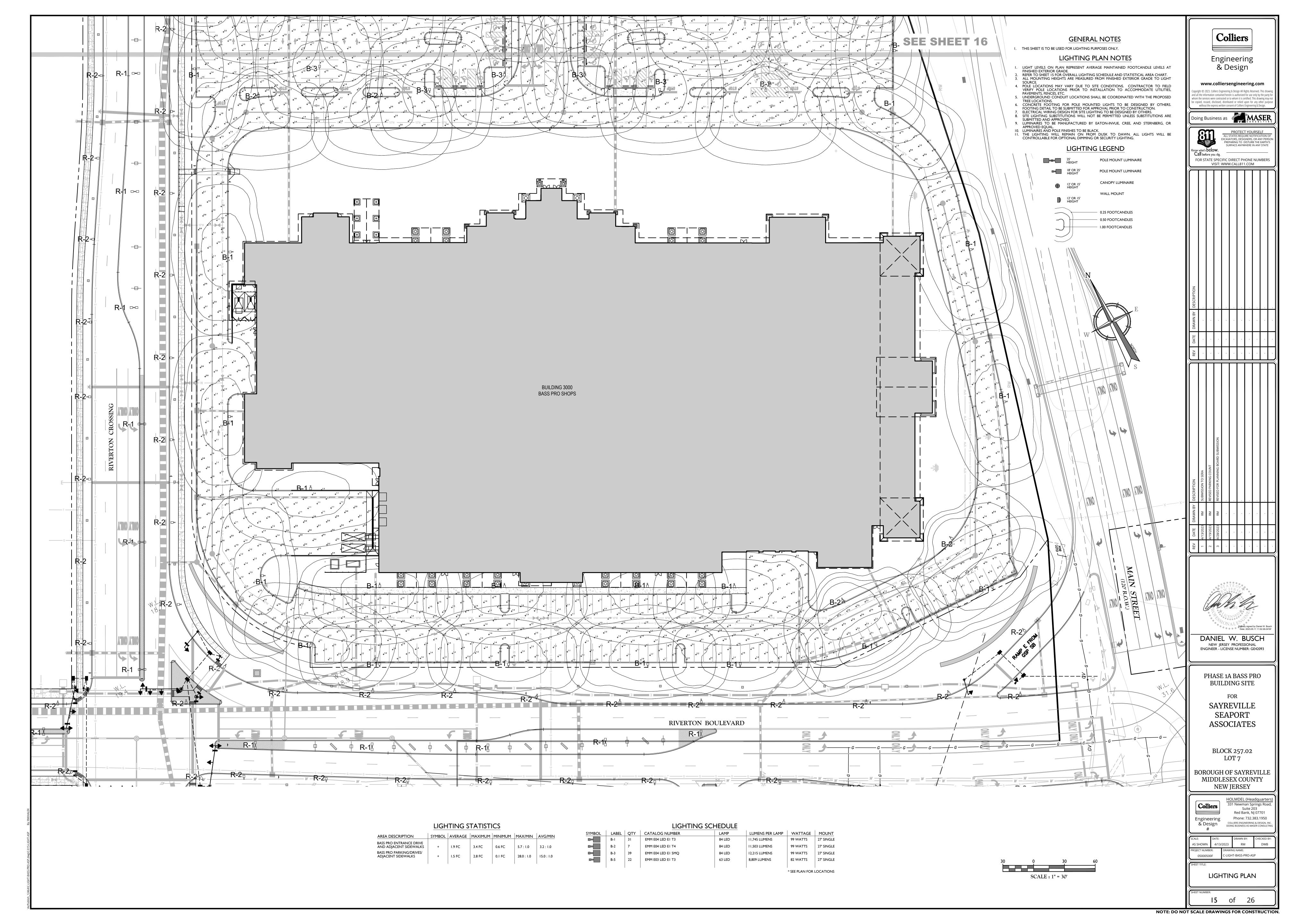
HOLMDEL (Headquarters) 331 Newman Springs Road **Colliers** Suite 203 Red Bank, NJ 07701 Phone: 732.383.1950 Engineering OLLIERS ENGINEERING & DESIGN, INC. & Design DOING BUSINESS AS MASER CONSULT

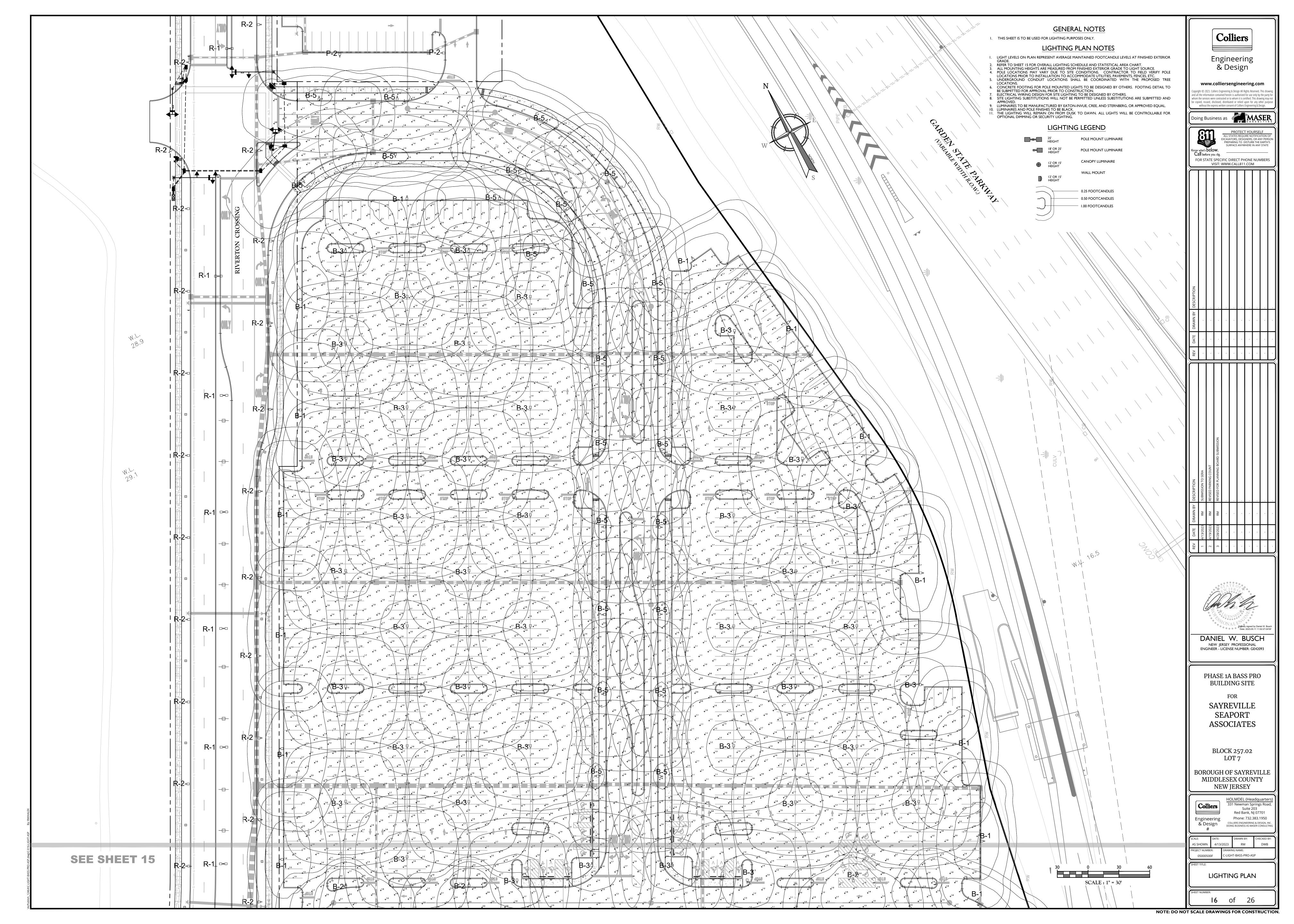
C-SESC-DTLS-BASS-PRO-ASP 05000500F SOIL EROSION & SEDIMENT

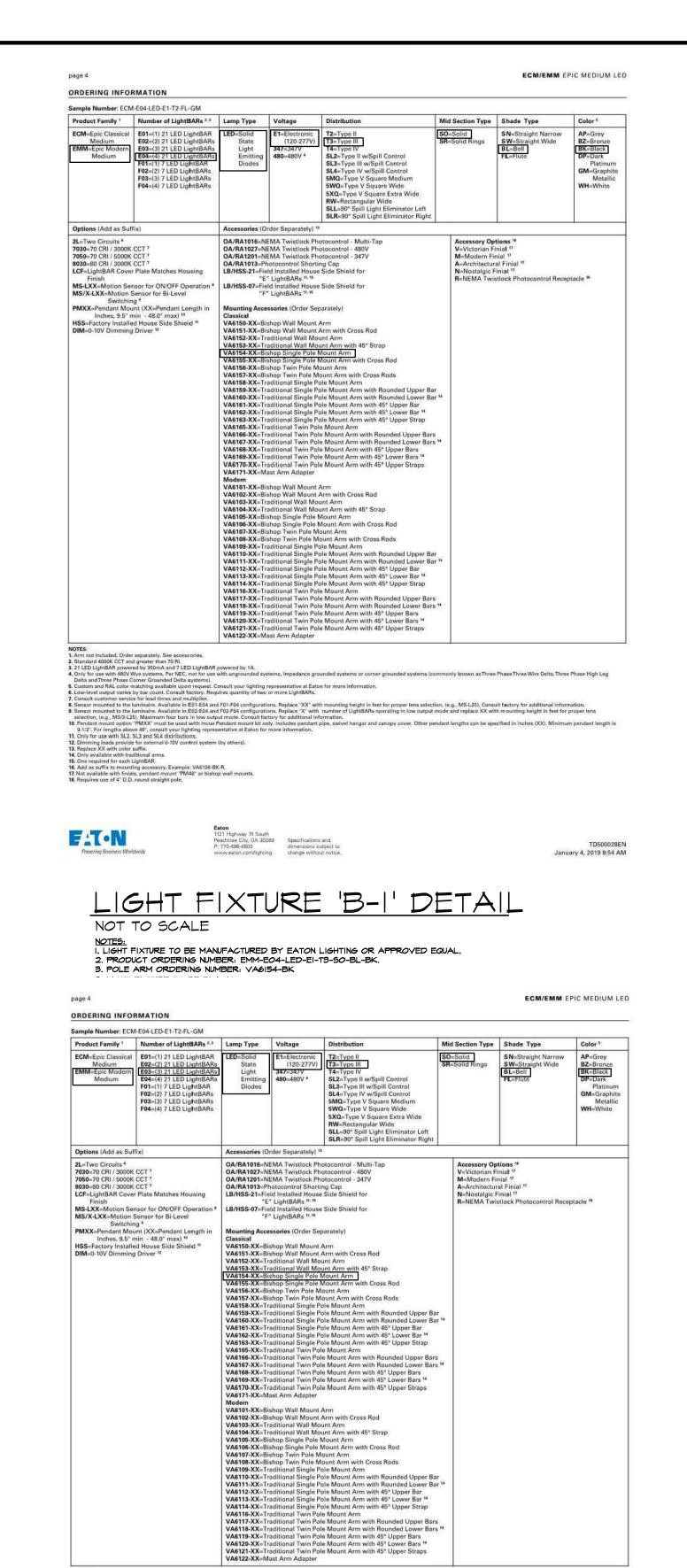
14 of

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

CONTROL DETAILS







valiable upon request. Consult your lighting representative at Eaton for more information, nt. Consult factory. Requires quantity of two or more LightBARs.

NOT TO SCALE

S. LIGHT FIXTURE TO BE BLACK.

s and multiplier.

Islable in E01-E04 and F01-F04 configurations. Replace "XX" with mounting height in feet for proper lens selection, (e.g., MS-L25). Consult factory for additional information.

Islable in E02-E04 and F02-F04 configurations. Replace "X" with number of LightBARs operating in low output mode and replace XX with mounting height in feet for proper lens our bars in low output mode. Consult factory for additional information.

be used with lenver Pendant mount kit only, includes pendant pipe, swivel hangar and canopy cover. Other pendant lengths can be specified in inches (XX). Minimum pendant length is your lighting representative at Eaton for more information.

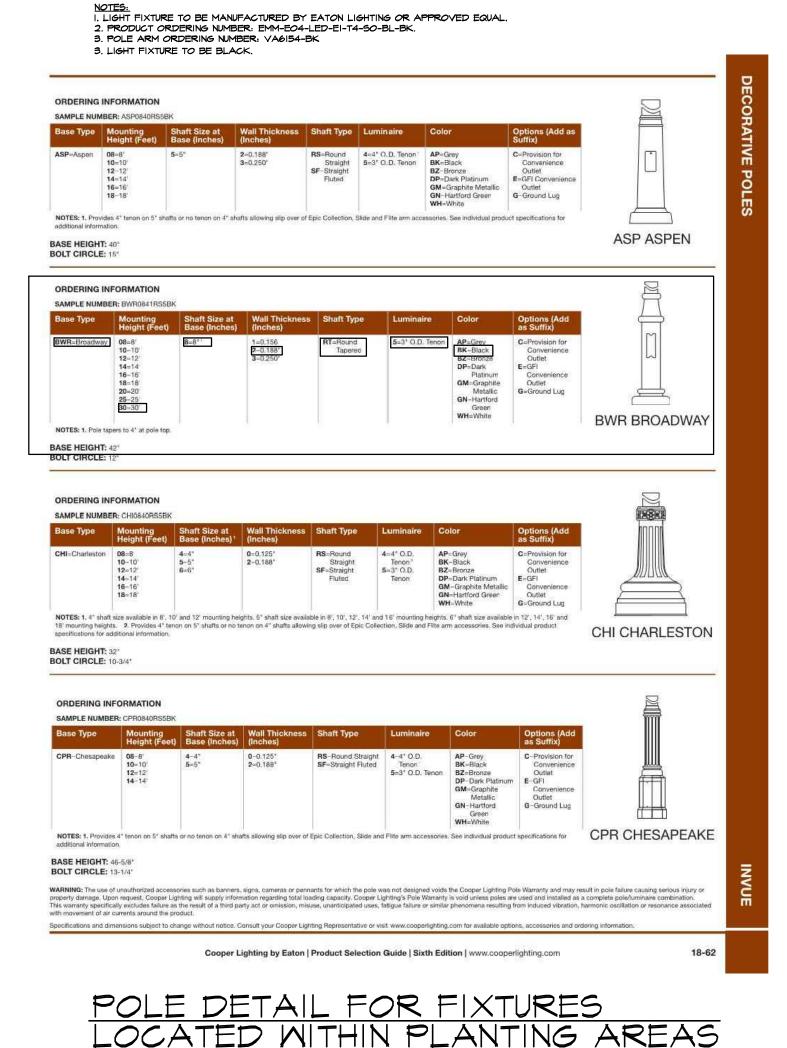
LIGHT FIXTURE 'B-5' DETAIL

NOTES:

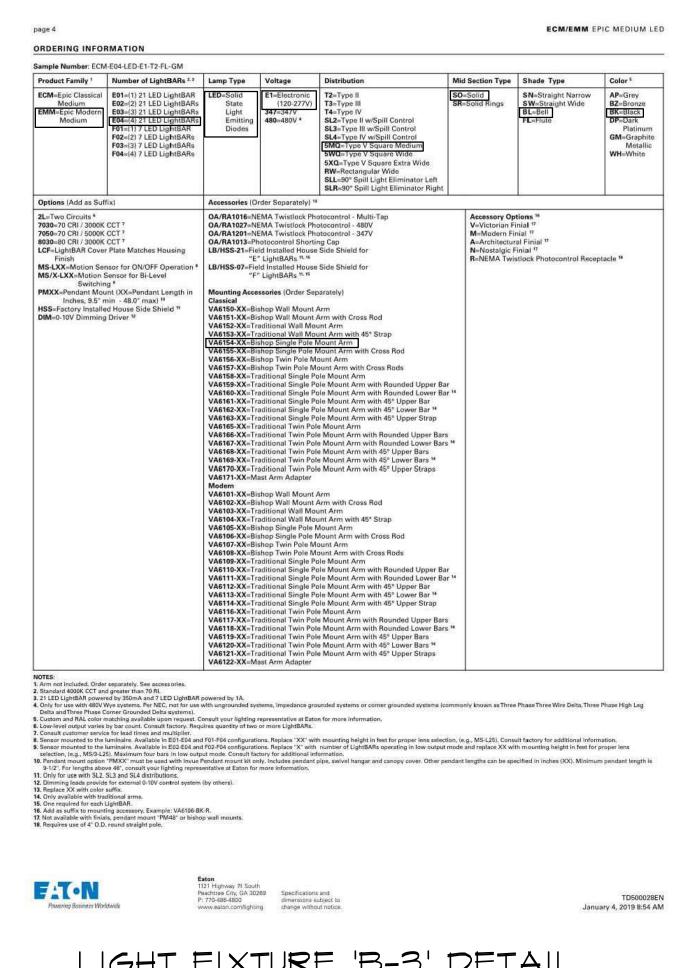
I. LIGHT FIXTURE TO BE MANUFACTURED BY EATON LIGHTING OR APPROVED EQUAL.

2. PRODUCT ORDERING NUMBER: EMM-E03-LED-E1-T3-S0-BL-BK.

3. POLE ARM ORDERING NUMBER: VA6154-BK





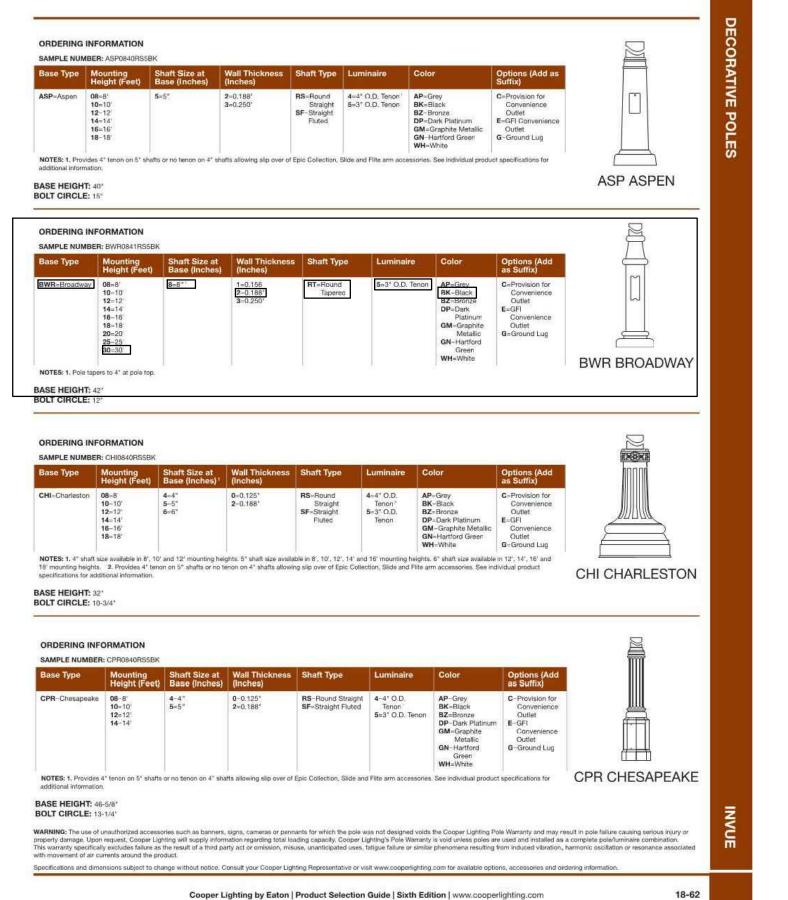


LIGHT FIXTURE 'B-3' DETAIL NOTES:

1. LIGHT FIXTURE TO BE MANUFACTURED BY EATON LIGHTING OR APPROVED EQUAL.

2. PRODUCT ORDERING NUMBER: EMM-EO4-LED-EI-5MQ-SO-BL-BK.

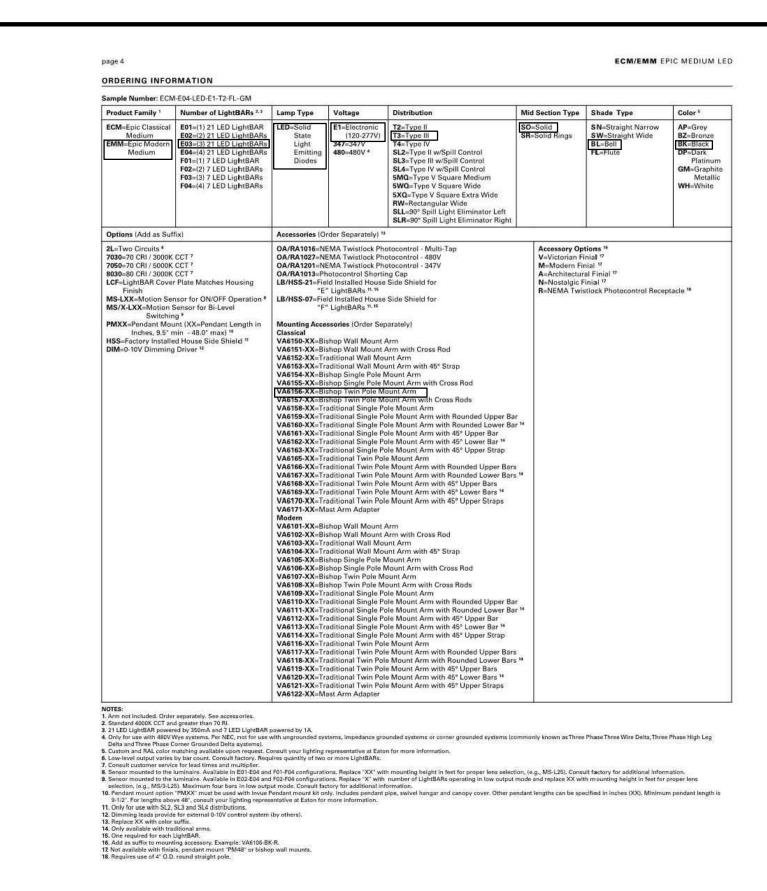
3. POLE ARM ORDERING NUMBER: VA6154-BK 3 LIGHT FIXTURE TO BE BLACK



POLE DETAIL FOR FIXTURES LOCATED WITHIN PARKING LOT PAVEMENT AREAS NOT TO SCALE NOTES:

1. POLE TO BE MANUFACTURED BY EATON OR APPROVED EQUAL. 2. PRODUCT ORDERING NUMBER: BWR-30-8-2-RT-5-BK

4. POLE TO BE TRIMMED IN FIELD FOR 3'-O" EXPOSED FOOTING WITHIN PARKING AREA PAVEMENT.



January 4, 2019 8:54 AM

LIGHT FIXTURE 'B-4' DETAIL NOTES:

1. LIGHT FIXTURE TO BE MANUFACTURED BY EATON LIGHTING OR APPROVED EQUAL.

2. PRODUCT ORDERING NUMBER: EMM-E03-LED-EI-T3-S0-BL-BK. 3. POLE ARM ORDERING NUMBER: VA6156-BK 3. LIGHT FIXTURE TO BE BLACK.

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Call before you dig. FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW CALL811 COM DANIEL W. BUSCH NEW JERSEY PROFESSIONAL ENGINEER - LICENSE NUMBER: GE42093 PHASE 1A BASS PRO **BUILDING SITE** FOR SAYREVILLE **SEAPORT ASSOCIATES** BLOCK 257.02 LOT 7 MIDDLESEX COUNTY **NEW JERSEY** Colliers 331 Newman Springs Roa Red Bank, NJ 07701 Phone: 732.383.1950 Engineering COLLIERS ENGINEERING & DESIGN, INC & Design DOING BUSINESS AS MASER CONSULT

C-LIGHT-DTLS-BASS-PRO-ASP

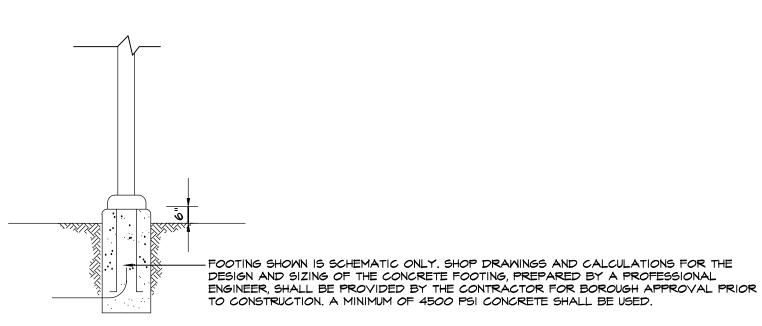
LIGHTING DETAILS

1**7** of

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CONCRETE BASE FOR PARKING LOT LIGHT FIXTURES LOCATED WITHIN PLANTING AREAS NOT TO SCALE



ECM/EMM EPIC MEDIUM LED

SN=Straight Narrow SW=Straight Wide BL=Bell FL=Flute

ORDERING INFORMATION

Options (Add as Suffix)

Sample Number: ECM-E04-LED-E1-T2-FL-GM

MS-LXX=Motion Sensor for ON/OFF Operation \*
MS/X-LXX=Motion Sensor for Bi-Level
Switching \*
PMXX=Pendant Mount (XXX=Pendant Length in
Inches, 9.5" min - 48.0" max) <sup>19</sup>
HSS=Factory Installed House Side Shield <sup>11</sup>
DIM=0-10V Dimming Driver <sup>12</sup>

Product Family 1 Number of LightBARs 2,3 Lamp Type Voltage

Accessories (Order Separately)

VA6171-XX=Mast Arm Adapter

Finish

MS-LXX=Motion Sensor for ON/OFF Operation

MS/X-LXX=Motion Sensor for Bi-Level

#E" LightBARs <sup>11, 16</sup>

LB/HSS-07=Field Installed House Side Shield for "F" LightBARs <sup>11, 16</sup>

OA/RA1027=NEMA Twistlock Photocontrol - 480V OA/RA1201=NEMA Twistlock Photocontrol - 347V

Classical VA6150-XX=Bishop Wall Mount Arm VA6151-XX=Bishop Wall Mount Arm with Cross Rod

VA6153-XX=Traditional Wall Mount Arm with 45° Strap
VA6154-XX=Bishop Single Pole Mount Arm
VA6155-XX=Bishop Single Pole Mount Arm with Cross Rod

VA6155-XX=Bishop Single Pole Mount Arm With Cross Rod VA6156-XX=Bishop Twin Pole Mount Arm WA6157-XX=Bishop Twin Pole Mount Arm with Cross Rods VA6158-XX=Traditional Single Pole Mount Arm With Rounded Upper Bar VA6159-XX=Traditional Single Pole Mount Arm with Rounded Lower Bar VA6161-XX=Traditional Single Pole Mount Arm with Tourish Mount After VA6161-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA6162-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6162-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6162-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6162-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6162-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm with 45° Upper Bar VA6161-XX-Traditional Single Pole Mount Arm WA161-XX-Traditional Single Pole Mount Arm WA161-XX-Traditional Single Pole Moun

VA6161-XX=I raditional Single Pole Mount Arm with 45° Upper Bar VA6162-XX=Traditional Single Pole Mount Arm with 45° Upper Strap VA6163-XX=Traditional Twin Pole Mount Arm with 46° Upper Strap VA6165-XX=Traditional Twin Pole Mount Arm with Rounded Upper Bars VA6167-XX=Traditional Twin Pole Mount Arm with Rounded Lower Bars \*VA6168-XX=Traditional Twin Pole Mount Arm with 45° Upper Bars VA6169-XX=Traditional Twin Pole Mount Arm with 45° Upper Bars VA6169-XX=Traditional Twin Pole Mount Arm with 45° Upper Straps VA6170-XX=Traditional Twin Pole Mount Arm with 45° Upper Straps VA6171-XX=Mast Arm Adapter

VA6171-XX-Mast Arm Adapter
Modem
VA6101-XX=Bishop Wall Mount Arm
VA6102-XX-Bishop Wall Mount Arm with Cross Rod
VA6103-XX-Traditional Wall Mount Arm with 45° Strap
VA6104-XX-Traditional Wall Mount Arm with 45° Strap
VA6104-XX-Bishop Single Pole Mount Arm
VA6106-XX-Bishop Single Pole Mount Arm with Cross Rod
VA6107-XX-Bishop Twin Pole Mount Arm
VA6108-XX-Bishop Twin Pole Mount Arm with Cross Rods
VA6109-XX-Traditional Single Pole Mount Arm
VA6110-XX-Traditional Single Pole Mount Arm with Rounded Upper Bar
VA6111-XX-Traditional Single Pole Mount Arm with Rounded Upper Bar
VA6111-XX-Traditional Single Pole Mount Arm with Rounded Lower Bar
VA6111-XX-Traditional Single Pole Mount Arm with Rounded Lower Bar

VA6110-XX=Traditional Single Pole Mount Arm with Rounded Upper Bar VA6111-XX=Traditional Single Pole Mount Arm with Rounded Lower Bar VA6112-XX=Traditional Single Pole Mount Arm with 45° Upper Bar VA6113-XX=Traditional Single Pole Mount Arm with 45° Lower Bar \*\* VA6114-XX=Traditional Single Pole Mount Arm with 45° Upper Strap VA6116-XX=Traditional Twin Pole Mount Arm with Rounded Upper Bars VA6118-XX=Traditional Twin Pole Mount Arm with Rounded Lower Bars \*\* VA6118-XX=Traditional Twin Pole Mount Arm with 85' Upper Bars VA6119-XX=Traditional Twin Pole Mount Arm with 45' Upper Bars \*\* VA6121-XX=Traditional Twin Pole Mount Arm with 45' Upper Straps VA6121-XX=Traditional Twin Pole Mount Arm with 45' Upper Straps VA6122-XX=Traditional Twin Pole Mount Arm with 45' Upper Straps VA6122-XX=Mast Arm Adapter

LIGHT FIXTURE 'B-2' DETAIL

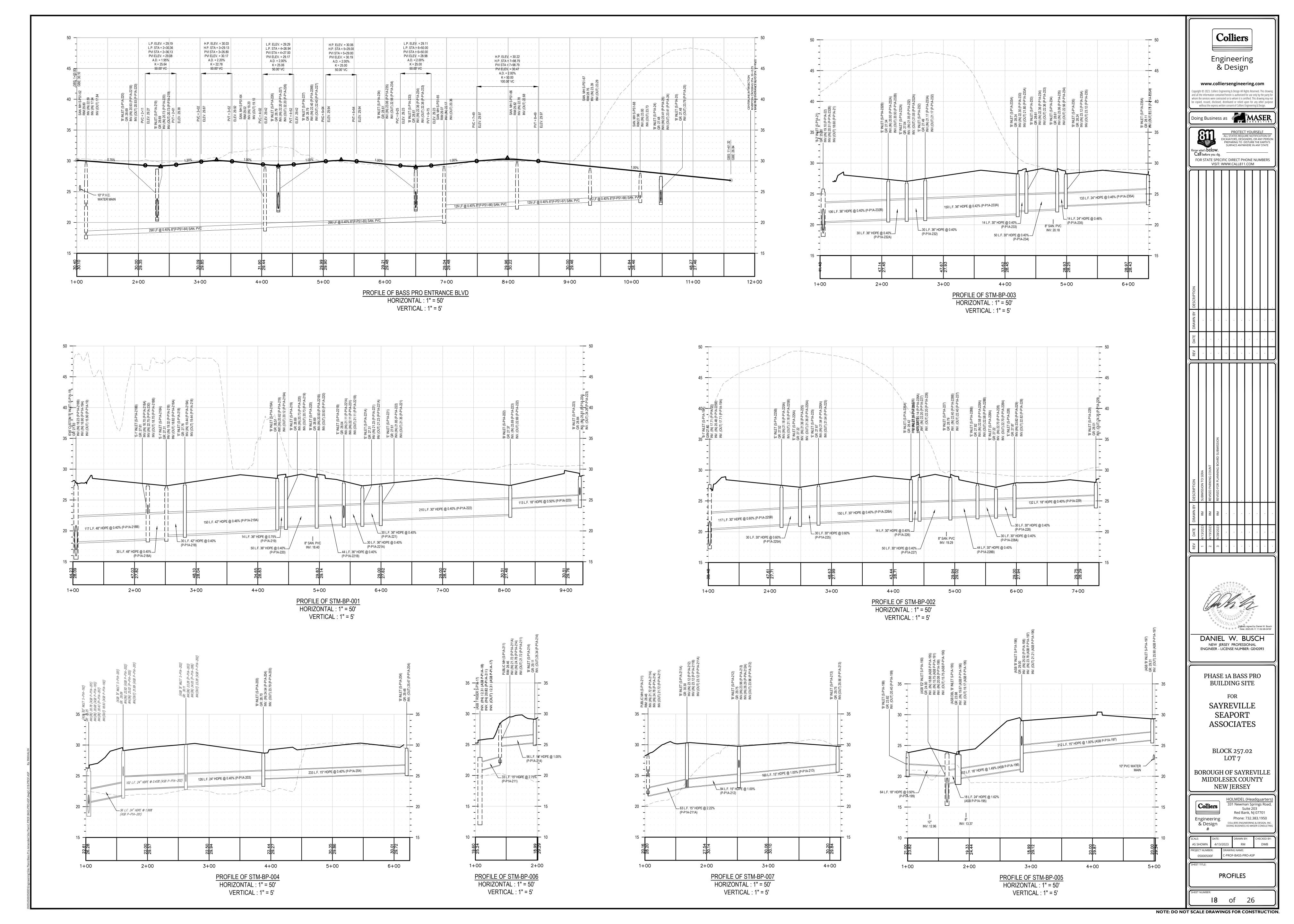
es and multiplier.

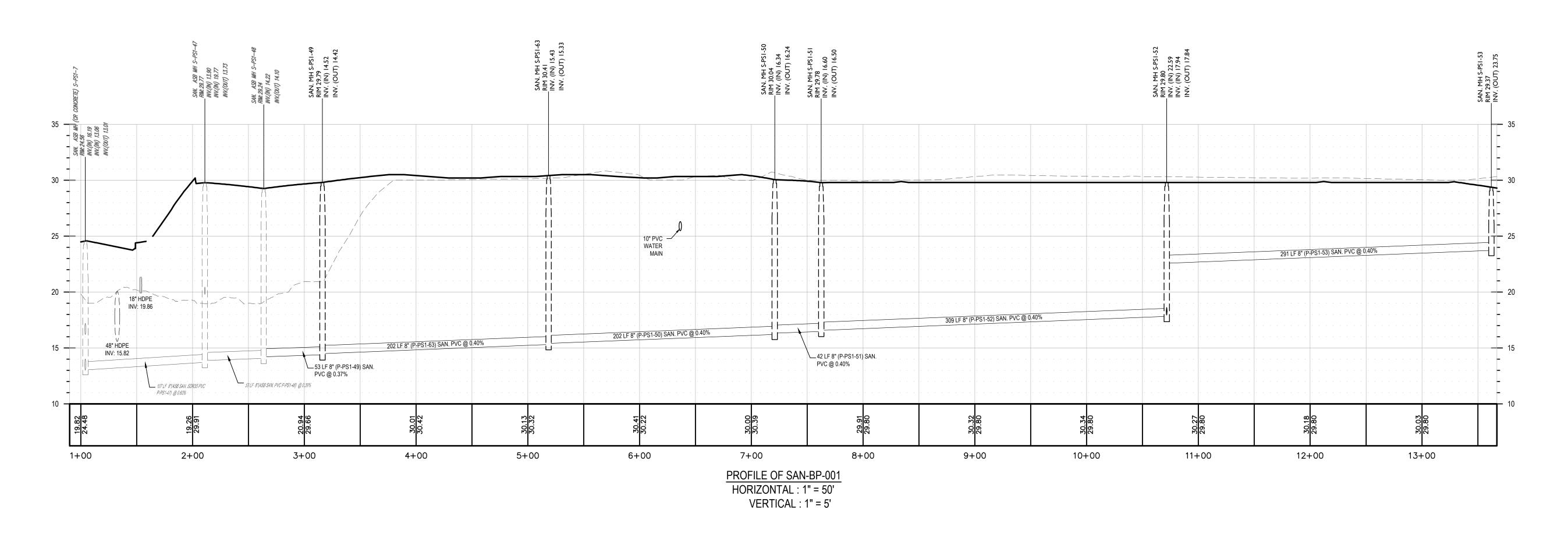
illable in E01-E04 and F01-F04 configurations. Replace "XX" with mounting height in feet for proper lens selection, (e.g., MS-L25), Consult factory for additional information.

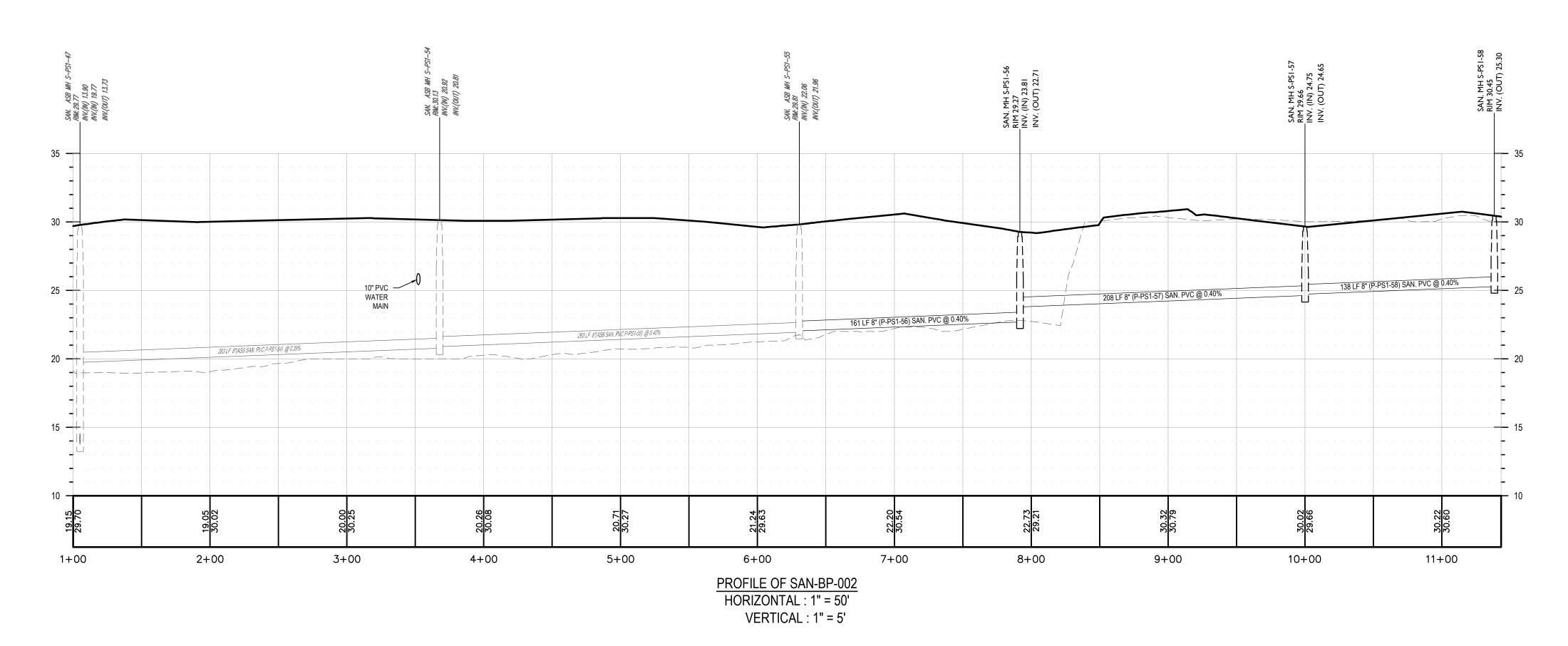
sliable in E02-E04 and F02-F04 configurations. Replace "X" with number of LightBARs operating in low output mode and replace XX with mounting height in feet for proper lens four bars in low output mode. Consult factory for additional information.

the used with Invue Pendant mount kit only, includes pendant pipe, swivel hangar and canopy cover. Other pendant lengths can be specified in inches (XX). Minimum pendant length is

RAISED CONCRETE BASE FOR LIGHT FIXTURES LOCATED WITHIN PARKING LOT PAVEMENT AREAS NOT TO SCALE







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DANIEL W. BUSCH
NEW JERSEY PROFESSIONAL
ENGINEER - LICENSE NUMBER: GE42093

PHASE 1A BASS PRO **BUILDING SITE** FOR

SAYREVILLE SEAPORT **ASSOCIATES** 

BLOCK 257.02 LOT 7

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY **NEW JERSEY** 

Colliers

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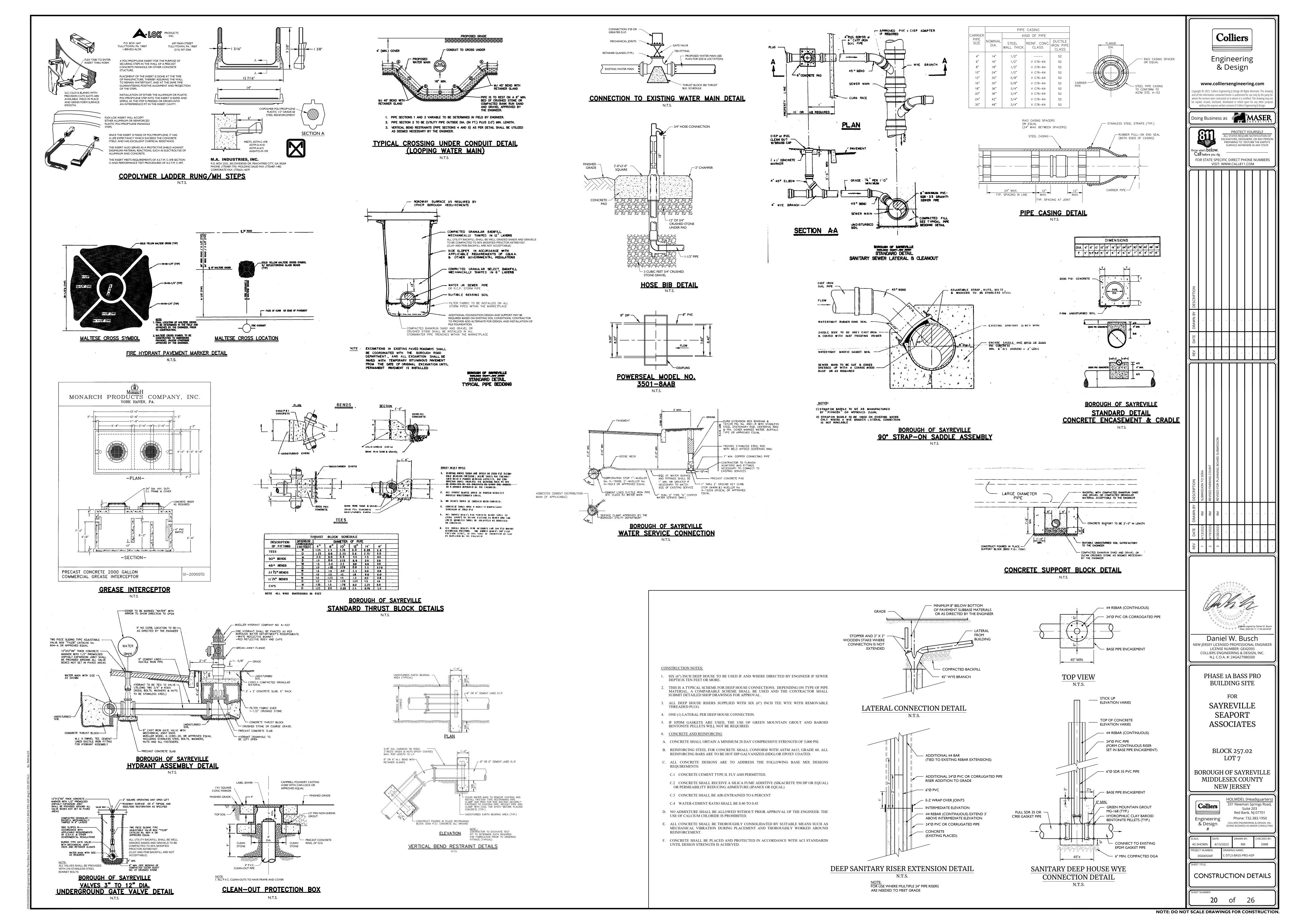
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Suite 203 Red Bank, NJ 07701 Engineering Phone: 732.383.1950 & Design Colliers Engineering & Design, Inc.
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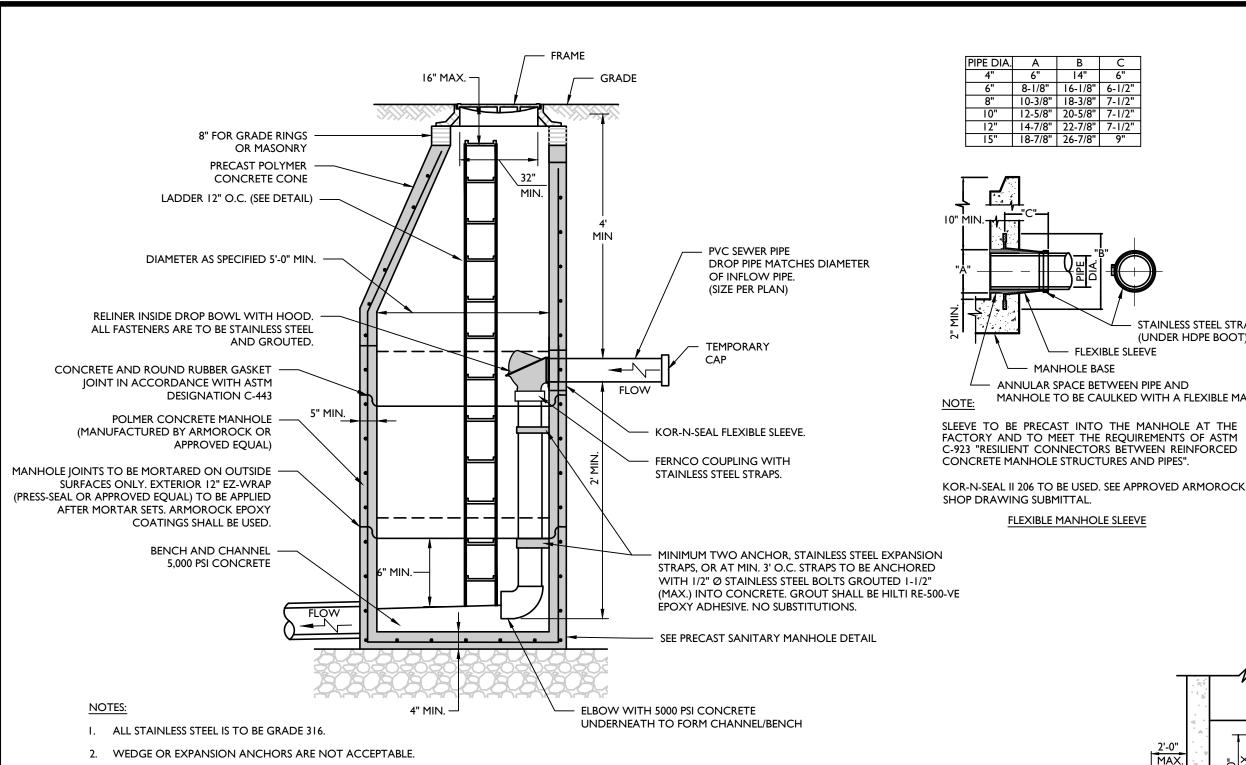
05000500F C-PROF-BASS-PRO-ASP

**PROFILES** 

1**9** of 26

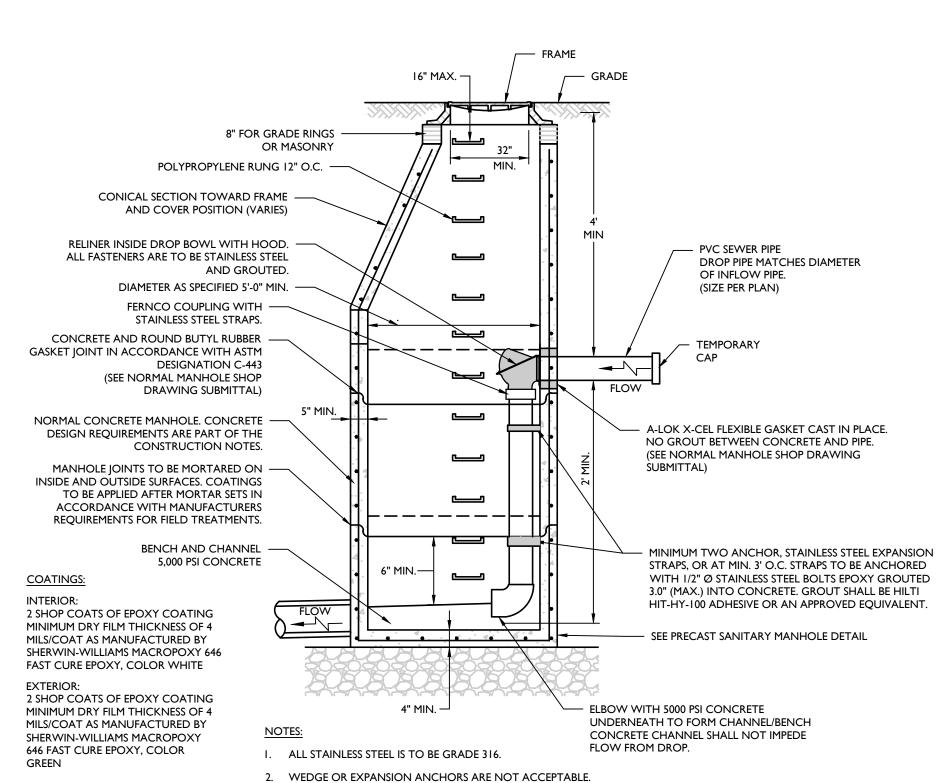
NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.





- 3. ALL ANCHORAGE HOLES ARE TO BE COMPRESSED AIR CLEANED PRIOR TO GROUT
- 4. FLAT LID ONLY AT WET WELL INFLUENT MANHOLE. ALL OTHER LOCATIONS SHALL
- 5. PRECAST CHANNELS SHALL NOT BE USED FOR BENDS GREATER THAN 45°. POURED CONCRETE LONG RADIUS CHANNELS SHALL BE CONSTRUCTED.
- 6. CONTRACTOR SHALL HAVE CURRENT HILTI ANCHOR INSTALLER CERTIFICATION. REQUIRED FOR ALL GROUTED ANCHOR INSTALLATION.

CORROSION RESISTANT SANITARY DROP MANHOLE (INTERNAL DROP) DETAIL



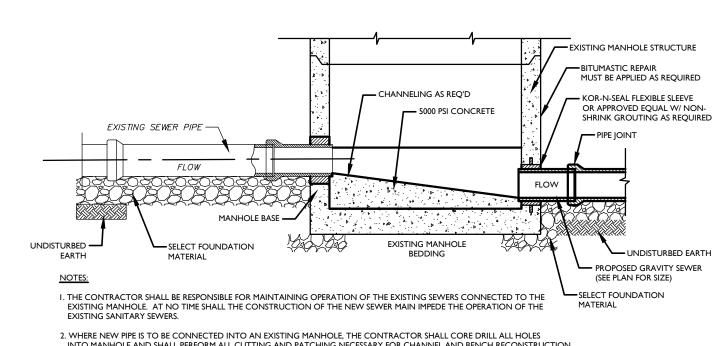
NORMAL CONCRETE SANITARY DROP MANHOLE (INTERNAL DROP) DETAIL

3. ALL ANCHORAGE HOLES ARE TO BE COMPRESSED AIR CLEANED PRIOR TO

4. PRECAST CHANNELS SHALL NOT BE USED FOR BENDS GREATER THAN 45° POURED CONCRETE LONG RADIUS CHANNELS SHALL BE CONSTRUCTED.

5. CONTRACTOR SHALL HAVE CURRENT HILTI ANCHOR INSTALLER

CERTIFICATION. REQUIRED FOR ALL GROUTED ANCHOR INSTALLATION.



INTO MANHOLE AND SHALL PERFORM ALL CUTTING AND PATCHING NECESSARY FOR CHANNEL AND BENCH RECONSTRUCTION TO CHANNEL FLOW INTO EXISTING SEWER. PIPE SHALL BE SEALED USING FERNCO MANHOLE ADAPTERS OR EQUAL, AND NON- SHRINK GROUT. EXISTING BENCH SHALL BE CHIPPED AND CUT AWAY TO ALLOW FOR NEW CHANNEL TO BE onstructed and to provide a good, sound surface for bonding with new concrete channel and bench. All OOSE CONCRETE, RUST OF REINFORCING RODS, AND OTHER FOREIGN MATERIALS SHALL BE REMOVED AND THE CAVITY eaned with water or air under pressure, as necessary. Apply epoxy bonding agent prior to pouring CONCRETE. THE CONCRETE USED TO CONSTRUCT BENCHES AND CHANNELS SHALL HAVE A MINIMUM 28-DAY

3. ANY DAMAGE TO THE EXISTING MANHOLE CAUSED BY THE CONSTRUCTION OPERATIONS SHALL BE REPAIRED TO THE

4. ALL WORK TO BE MONITORED AND ACCEPTED BY THE BOROUGH OF SAYREVILLE SEWER DEPARTMENT.

NOT TO SCALE

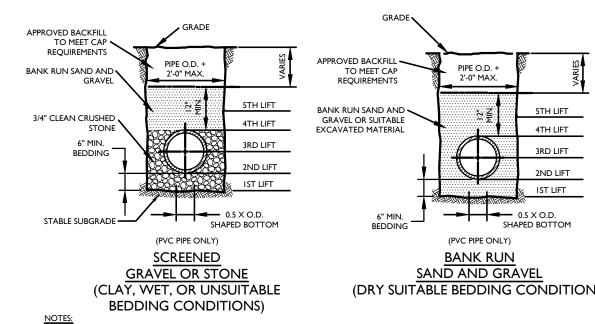
SEWER CONNECTION TO EXISTING MANHOLE

5. STEEL REINFORCED COPOLYMER POLYPROPYLENE RUNG I-5/8" X I-1/4" DIA. WITH MOLDED

6. LADDERS ARE TO BE FULL HEIGHT AND CONTINOUS. NO PULL UP HAND RAIL.

II. CONTRACTOR SHALL HAVE CURRENT HILTI ANCHOR INSTALLER CERTIFICATION. REQUIRED FOR ALL GROUTED ANCHOR INSTALLATION.

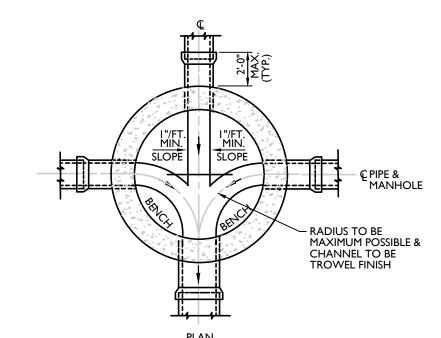
POLYPROPYLENE MANHOLE LADDER DETAIL



I. BANK RUN SAND AND GRAVEL TO BE THOROUGHLY COMPACTED IN 6" TO 12" LOOSE LAYERS BY APPROVED TAMPING MACHINE. 2. BANK RUN SAND AND GRAVEL AND GRANULAR FILLS SHALL BE COMPACTED TO 92% MODIFIED PROCTOR DENSITY (TYPICAL) TO WITHIN 5 FEET OF THE

4. TRENCH WIDTH TO BE AS NEEDED WITHIN BRACED EXCAVATIONS

STANDARD PIPE BEDDING AND BACKFILL FOR PVC PIPE



STAINLESS STEEL STRAP

(UNDER HDPE BOOT)

FLEXIBLE SLEEVE

MANHOLE TO BE CAULKED WITH A FLEXIBLE MATERIAL

- ANNULAR SPACE BETWEEN PIPE AND

MANHOLE BASE

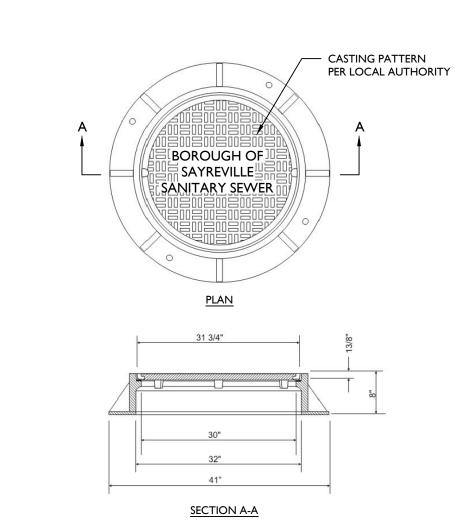
FLEXIBLE MANHOLE SLEEVE

I. MANHOLE CHUTE IS TO BE USED WHERE DIFFERENCE IN INVERT ELEVATIONS BETWEEN INCOMING PIPE AND OUTGOING PIPE IS LESS THAN 2'-0"

5000 PSI CONCRETE

2. IF THE DIFFERENCE 2'-0" OR GREATER, THEN EXTERNAL DROP CONNECTION SHALL BE MADE. CHANNELING SHALL BE AS SHOWN ABOVE.

MANHOLE CHUTE DETAIL NOT TO SCALE



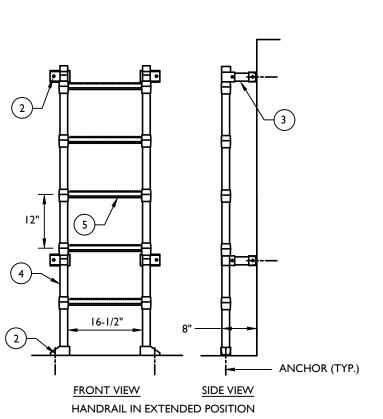
MANHOLE FRAME AND COVER SHALL BE CAMPBELL FOUNDRY PATTERN # 1012B WITH FLOW-SEAL COVER OR APPROVED EQUAL OR AS OTHERWISE REQUIRED BY JURISDICTIONAL AUTHORITY.

2. MANHOLE FRAME AND COVER TO BE HEAVY DUTY, CONFORMING TO ASTM SPECIFICATION A-48 CLASS 30-B.

AND COVER DETAIL

NOT TO SCALE

3. LETTER HEIGHT SHALL BE 1.5 INCHES. SANITARY MANHOLE FRAME



I. POLYPROPYLENE CONFORMS TO ASTM D-4101. LADDERS MEET ALL ASTM C-497 LOAD

. FASTEN LADDER TO FLOOR AND WALL WITH 3/8"Ø X 1-1/2" ANCHORS FOR POLYMER

CONCRETE AND 3/8"Ø X 3.0" ANCHORS FOR NORMAL CONCRETE. ANCHORS TO BE

3. STANDARD ADJUSTABLE MOUNTING BRACKET 8" O.D.

4. ALUMINUM REINFORCED COPOLYMER POLYPROPYLENE RAIL I-3/4" X I-3/4" DIA.

7. LADDER TO BE MANUFACTURED BY LANE INTERNATIONAL CORPORATION (TUALATIN, OR)

8. THE FOLLOWING GROUTS SHALL BE USED FOR ANCHORS:

INSTALLED PER MANUFACTURERS INSTRUCTIONS.

a. NORMAL CONCRETE MANHOLES - HILTI HIT-HY 100 ADHESIVE OR APPROVED EQUAL. b. CORROSION RESISTANT MANHOLES - HILTI RE 500-VE EPOXY ADHESIVE. NO SUBSTITUTIONS.

9. NO WEDGE OR EXPANSION ANCHORS. ALL ANCHORAGE HOLES ARE TO BE COMPRESSED AIR CLEANED PRIOR TO GROUT PLACEMENT 10. ALL ANCHORS SHALL BE GRADE 316 STAINLESS STEEL.

CONSTRUCTION NOTES

THESE CONSTRUCTION PLANS ARE FOR FULL CONSTRUCTION OF THE DEEP SANITARY SEWER COLLECTOR. THIS INCLUDES, DEWATERING, BRACED EXCAVATIONS. MATERIAL SEGREGATION AND ONSITE RELOCATION AS NEEDED, PLACEMENT OF STRUCTURAL BACKFILL MATERIALS, TEMPORARY PROTECTION OF MANHOLES AFTER INSTALLATION.

2. CONTRACTOR TO PROVIDE A DETAILED CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL.

3. ALL SESC MEASURES ARE TO BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES. THIS INCLUDES RELOCATING THE SESC MEASURES AS PIPE INSTALLATION ADVANCES.

4. THE CONTRACTOR SHALL INSTALL ALL TEMPORARY SHORING AND BRACING REQUIRED FOR THE INSTALLATION OF THE SANITARY SEWER LINES INCLUDING PLUMBNESS, STRUCTURAL STABILITY AND SAFETY. BRACING AND SHORING AND SEQUENCES OF SUCH WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HIS/HER LICENSED ENGINEER REGISTERED IN THE STATE OF NEW JERSEY AND ALL SUBMITTALS SHALL BEAR THE ENGINEER'S SEAL AND SIGNATURE.

5. A SHOP DRAWING DESIGN SUBMITTAL WILL BE REQUIRED FOR TEMPORARY SUPPORT STRUCTURES AND WILL NEED TO MEET OSHA REQUIREMENTS. THE SHOP DRAWINGS ARE TO BE REVIEWED AND APPROVED BY THE SITE CONSTRUCTION MANAGER. THE TEMPORARY EXCAVATION SUPPORT WILL NEED TO BE DESIGNED FOR THE FOLLOWING MINIMUM DESIGN CRITERIA:

A. SOIL PARAMETERS: EXISTING FILLS:

SOIL UNIT WEIGHT = 120 PCF SOIL FRICTION ANGLE = 28 DEGREES

POORLY GRADED SANDS & GRAVELS SOIL UNIT WEIGHT = 128 PCF SOIL FRICTION ANGLE = 32 DEGREES

CLAY AND SANDS: SOIL UNIT WEIGHT = 120 PCF COHESION = 400 PSF

B. SURCHARGE LOADS:

CONSTRACTOR SHALL EVALUATE AND DESIGN THE TEMPORARY EXCAVATION SUPPORT FOR SURCHARGE LOADS BASED UPON THEIR MEANS AND METHODS.

EXCAVATION AND BACKFILL WILL BE STAGED AS PIPE AND MANHOLE SECTIONS ARE PLACED AND BACKFILLED, DEWATERING EFFORT MAY BE REDUCED AS BACKFILL PROCEEDS. CALCULATIONS WILL NEED TO BE PROVIDED TO SUPPORT REDUCING DEWATERING AS BACKFILL PROCEEDS TO ENSURE EXCESSIVE UPLIFT FORCES DO NOT OCCUR ON THE PIPE AND STRUCTURES.

CONTRACTOR'S SEQUENCE OF CONSTRUCTION SHALL MINIMIZE THE AMOUNT OF DEWATERING REQUIRED. ALL GROUNDWATER GENERATED DURING DEWATERING OPERATIONS SHALL BE PUMPED TO THE TEMPORARY HOLDING BASIN UNLESS OTHERWISE DIRECTED BY THE SITE DEVELOPER AND THE SITE LSRP.

MASER CONSULTING HAS PERFORMED NO ENVIRONMENTAL WORK FOR THIS PROPERTY AND THIS PLAN IS NOT DEPICTING ENVIRONMENTAL CONDITIONS OR A CERTIFICATION/WARRANTY FOR THE ADEQUACY OF THE PROPOSED REMEDIATION TREATMENTS, CONTROLS AND/OR REMEDIES, WHICH ARE BEING CONSTRUCTED. AREAS OF CONTAMINATION DEPICTED WITHIN THESE PLANS ARE APPROXIMATE AND THE CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS IN THE FIELD WITH ROUX ASSOCIATES, INC. (SITE ENVIRONMENTAL CONSULTANT) AND SOVEREIGN CONSULTING, INC. (SITE RADIALOGICAL CONSULTANT) PRIOR TO ANY EXCAVATION OR MOBILIZATION.

9. THE CONTRACTOR SHALL BE FAMILIAR WITH THE REMEDIAL ACTION WORK PLANS FOR THE SITE AND APPLICABLE ENVIRONMENTAL

10. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR DISTURBANCE WITHIN ANY AOC, BOTH CONVENTIONAL AND RADIOLOGICAL WHICH IS REQUIRED AS PART OF THE CONSTRUCTION SHOWN HEREON.

11. A NEW SOIL CONSERVATION DISTRICT PERMIT WILL BE OBTAINED BY THE APPLICANT FOR THE PROPOSED CONSTRUCTION SHOWN HEREON. THE CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN ALL OTHER PERMITS REQUIRED FROM ANY AGENCY.

12. THE SITE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS FROM THE NJDEP, SOIL CONSERVATION DISTRICT AND/OR BOROUGH REQUIRED FOR ANY DEWATERING. 3. CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND COORDINATING

THE AREA OF WORK. CONFLICT COORDINATION WILL BE REQUIRED. 14. CONTRACTOR IS RESPONSIBLE TO ENSURE NO CONTAMINATED MATERIAL OR WATER IS DISCHARGED FROM THE SITE, INCLUDING AS A RESULT OF CONSTRUCTION ACTIVITIES, STORM EVENTS, TIDAL EVENTS.

WITH THE OWNER AND OPERATOR (PRAXAIR) OF THE ACTIVE HIGH

PRESSURE GAS PIPELINES WHICH RUN THROUGH THE SITE AND WITHIN

15. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY, INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING AND IMPLEMENTED BY THE CONTRACTOR AT ALL TIMES.

16. PURSUANT TO THE "ONE CALL" LAW, CONTRACTOR SHALL CALL 1-800-272-1000 OR 811 PRIOR TO ANY EXCAVATION TO REQUEST A MARKOUT OF UNDERGROUND UTILITIES.

CONSTRUCTION AND ANY ACCESS ROAD PREPARATION NEEDS WITH SOVEREIGN DUE TO RADIOLOGICAL AREAS BEING TRAVERSED. CONTRACTOR SHALL INCLUDE COSTS FOR HAUL ROADS AND ADDITIONAL SESC MEASURES FOR THEIR STAGING AREA. SESC NEEDS ARE TO BE COORDINATED WITH THE SITE ENGINEER AND DEVELOPER.

19. ALL BACKFILL MATERIALS ARE TO BE PLACED IN A MAXIMUM LOOSE LIFT THICKNESS OF 12 INCHES AND COMPACTED TO SPECIFIED DENSITIES AS DETERMINED IN ACCORDANCE WITH ASTM D1557. ACTUAL LIFT THICKNESS WILL BE DETERIMNED IN THE FIELD DEPENDING UPON MOISTURE CONDITIONS AT THE TIME OF CONSTRUCTION. ALL BACKFILL MATERIALS ARE TO MEET STANDARDS SET FORTH BY THE ENVIRONMENTAL CONSULTANT.

EXCAVATION AND BACKFILLING

SOIL. ALL SOFT SPOTS SHALL BE EXCAVATED AND BACKFILLED WITH ACCEPTABLE FILL MATERIAL AND COMPACTED TO 95 PERCENT OF MAXIMUM DRY DENSITY (ASTM D1557).

COMPACTED TO A MINIMUM DENSITY OF 92 PERCENT OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D1557 5 FEET OF GRANULAR FILLS SHALL BE COMPACTED TO AT LEAST 95% MODIFIED PROCTOR. LIFT THICKNESS MAY CHANGE BASED ON MATERIAL

3. BACKFILL SHALL CONSIST OF NON-EXPANSIVE, FREE-DRAINING, WELL GRADED SAND AND GRAVEL, FREE OF DEBRIS AND ORGANIC MATERIAL. ON-SITE EXCAVATED MATEERIALS MAY BE SUITABLE SUBJECT TO OBSERVATION OF CLAY CONTENT AND MOISTURE CONDITIONS.

4. BACKFILL AND STRUCTURAL FILL PLACEMENT AND COMPACTION IS TO BE MONITORED WITH FULL-TIME OBSERVATION AND TESTING. PROCTOR TESTS (ASTM D1557) WILL NEED TO BE CONDUCTED FOR EACH MATERIAL USED FOR STRUCTURAL BACKFILLS.

1. THE PROJECT DEVELOPER SHALL BE PROVIDING THE CORROSION RESISTANT MANHOLES FOR THE PROJECT.

2. ALL PRECAST CONCRETE SHALL BE DESIGNED BY THE CONTRACTORS ENGINEER. DESIGN SHALL BE PREPARED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF NEW JERSEY.

3. DESIGN WILL NEED TO ADDRESS THE FOLLOWING: i. Ph ENVIRONMENT BETEEN 2.0 AND 4.0

> ii. SULFATE ENVIRONMENT > 10,000 UG/L ACCORDINGLY

CONCRETE PROVIDED BY ARMOROCK. SHOP DRAWINGS FOR EACH POLYMER CONCRETE MANHOLE SHALL BE PROVIDED.

5. PROPOSED NORMAL CONCRETE MANHOLES WILL REQUIRE THE FOLLOWING: a) CAN BE LOCATED ONLY IN THE BACKGROUND AREAS.

> THE "CONCRETE" SPECIFICATION SECTION OF THESE NOTES. c) SHOP DRAWINGS FOR EACH NORMAL CONCRETE MANHOLE SHALL

PART OF EACH MANHOLE SUBMITTAL.

1. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF ACI 318 AND "SPECIFICATIONS FOR CONCRETE BUILDINGS" ACI 301,

ADDITIONAL DROP LOCATION -

(ONLY AT 4 MANHOLES AT

DIFFERENT ELEVATIONS)

REINFORCING STEEL FOR CONCRETE SHALL CONFORM WITH ASTM A615.

4. ALL REINFORCING BARS SHALL BE SPLICED A MINIMUM OF 40 BAR

WELDED WIRE FABRIC (WWF) SHALL CONFORM WITH ASTM A185. WIRE FABRIC SHALL BE TIED WITH WIRE AND OVERLAPPED TWO SQUARES AT

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED OVER REINFORCEMENT, UNLESS OTHERWISE NOTED ON THE

A. CONCRETE CAST AGAINST EARTH: 3 IN B. CONCRETE EXPOSED TO EARTH OR WEATHER: C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER: SLABS AND WALLS:

ALL CONCRETE DESIGNS ARE TO ADDRESS THE FOLLOWING BASE MIX DESIGNS REQUIREMENTS:

7.2 CONCRETE SHALL RECEIVE A SILICA FUME ADDITIVE (SIKACRETE 950 DP OR EQUAL) OR PERMEABILITY REDUCING ADMIXTURE (IPANEX OR EQUAL)

7.4 WATER-CEMENT RATIO SHALL BE 0.40 TO 0.45

7.6 ALL WATER-CEMENT RATIOS, FIELD AND PRE-CAST, SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO T318. "STANDARD METHOD OF TEST FOR WATER CONTENT OR FRESHLY MIXED

IN FORMS AND SPACED WITH ACCESSORIES FOLLOWING THE REOUIREMENTS OF THE "MANUAL OF STANDARD PRACTICE FOR PRACTICES FOR PLACING REINFORCING BARS.

9. NO ADMIXTURE SHALL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER. THE USE OF CALCIUM CHLORIDE IS PROHIBITED.

10. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY SUITABLE MEANS SUCH AS MECHANICAL VIBRATION DURING PLACEMENT AND THOROUGHLY WORKED AROUND REINFORCEMENT.

11. CONCRETE SHALL BE PLACED AND PROTECTED IN ACCORDANCE WITH ACI STANDARDS UNTIL DESIGN STRENGTH IS ACHIEVED.

1. ALL PIPE GASKETS ARE TO BE EPDM. NO EXCEPTIONS.

DROP BOWL MOUNTING POSITION

NOT TO SCALE

THESE MATERIALS SHALL BE WELL GRADED, DRY, AND MEET THE FOLLOWING PARTICLE SIZE DISTRIBUTION:

5' I.D. MANHOLE

RELINER BOWL

INTERIOR DROP DETAIL

SCALE: 3/4" = 1'-0"

2. ALL DROP BOWLS AND HOODS ARE TO BE BY RELINER/DURAN INC.

3. CENTER DROP BOWL DIRECTLY UNDER INCOMING PIPE, ALLOW

APPROXIMATELY I" CLEARANCE BETWEEN PIPE AND BOWL

FOR LARGEST BOWL (12")

(5" THICK WALLS)

30" MANHOLE OPENING

U.S. STANDARD SIEVE SIZE PERCENT FINER BY WEIGHT

80-100 NO. 30 NO. 60

5-20 NO. 200 SOIL PLASTICITY IS ACCEPTABLE BUT SHOULD BE LESS THAN 10 PERCENT

2. DENSE GRADED AGGREGATES (D.G.A.): WHERE NEEDED, THESE MATERIALS SHALL MEET THE REQUIREMENTS PRESENTED IN THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 (LATEST EDITION). RECYCLED CONCRETE AGGREGATES MAY ALSO BE ACCEPTABLE DEPENDING UPON WHERE THEY

THESE MATERIALS SHALL MEET THE FOLLOWING PARTICLE SIZE DISTRIBUTION FOR NJDOT NO. 57 STONE (3/4" CLEAN STONE):

U.S. STANDARD SIEVE SIZE PERCENT FINER BY WEIGHT 95-100

ALTERNATE MATERIAL GRADATIONS MAY BE SUBMITTED FOR ENGINEER APPROVAL. ALL MATERIAL SUBMISSIONS FOR IMPORT SHALL BE WELL GRADED, 100 PERCENT PASSING THE 2" U.S. SIEVE SIZE AND SHALL HAVE NO MORE THAN 15 PERCENT NON-PLASTIC FINES.

ALL DESIGN SUBMITTALS PREPARED BY MANUFACTURER AND CONTRACTOR'S ENGINEER SHALL BE REVIEWED BY THE SITE DESIGN ENGINEER OF RECORD IN ADDITION TO THE BOROUGH ENGINEER. THIS INCLUDES SHOP DRAWINGS FOR ALL PIPE AND MANHOLE MATERIALS. ALL DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A CERTIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF

STAGING AREA PLAN FOR REVIEW OF HAUL ROAD ACCESS NEEDS AND ADDITIONAL SESC MEASURES REQUIRED, IF ANY. VIBRATION AND SETTLEMENT MONITORING PLAN SHALL BE PROVIDED IF SHEET PILE OR PILE INSTALLATION IS PROPOSED TO MONITOR

4. VIBRATION MONITORING PLAN SHALL BE PREPARED FOR ANY WORK WITHIN 50 FEET OF THE PRAXAIR LINES.

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AVATORS, DESIGNERS, OR ANY PER PREPARING TO DISTURB THE EARTH SURFACE ANYWHERE IN ANY STA Call before you dig.

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW CALL811 COM



W IERSEY LICENSED PROFESSIONAL ENGINEER LICENSE NUMBER: GE42093 COLLIERS ENGINEERING & DESIGN, INC. N.J. C.O.A. #: 24GA27986500

BUILDING SITE

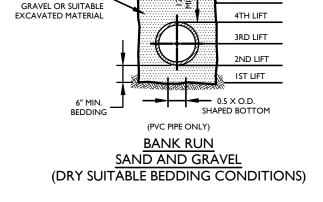
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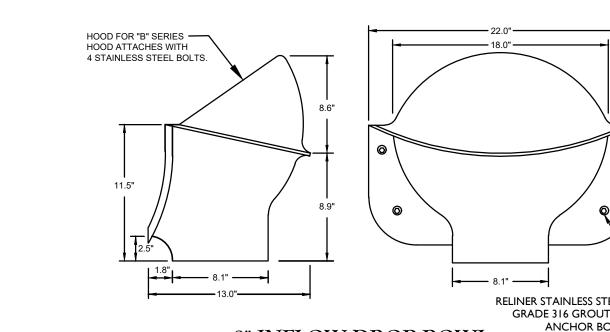
**ASSOCIATES** 

**BOROUGH OF SAYREVILLI** MIDDLESEX COUNTY

> HOLMDEL (Headquarters 331 Newman Springs Road Red Bank, NJ 07701 Phone: 732.383.1950 DOING BUSINESS AS MASER CONSULT

-DTLS-BASS-PRO-ASP





NOT TO SCALE

 DROP PIPE MATCHES INFLOW PIPE DIAMETER. 2. DROP BOWL SHALL BE AS MANUFACTURED BY RELINER/DURAN

3. MATCHING HOOD FOR THIS DROP BOWL REQUIRED

**GROUTED GRADE 316 STAINLESS STEEL** ANCHOR BOLT. ANCHORS SHALL BE 3/8"Ø. SEE POLYPROPYLENE MANHOLE LADDER DETAIL, NOTES 2, 8, AND 9 FOR ANCHOR AND GROUT DETAILS. FRONT VIEW

12" INFLOW DROP BOWL NOT TO SCALE

> 2. DROP BOWL SHALL BE AS MANUFACTURED BY RELINER/DURAN, INC. MODEL #24/12R60.

3. MATCHING HOOD FOR THIS DROP BOWL REQUIRED.

AND SAFETY PLANS HAVE BEEN PREPARED BY ROUX ASSOCIATES, INC.

MANY FACTORS WILL AFFECT THE FINAL EARTHWORK RESULTS. THESE FACTORS MAY INCLUDE BUT ARE NOT LIMITED TO, WEATHER CONDITIONS DURING CONSTRUCTION, EARTH MOVING EQUIPMENT USED, EXPERIENCE OF EQUIPMENT OPERATORS AND COMPACTION

1. ALL STRUCTURES AND PIPING SHALL BE FOUNDED ON FIRM, UNDISTURBED

MODIFIED PROCTOR UP TO 5 FEET FROM THE EXISTING SURFACE. THE UPPER

iv. IT IS A "SEVERE" ENVIRONMENT FOR CONCRETE.

6. MANHOLE WALL THICKNESS SHALL BE A MINIMUM FIVE (5) INCHES TO ACCOUNT FOR BOUYANCY CONCERNS. BOUYANCY CALCULATIONS ARE TO

MACROPOXY 646 FAST CURE EPOXY OR APPROVED EQUIVALENT. THIS COATING WILL BE APPLIED TO ALL NORMAL CONCRETE MANHOLES BOTH INTERIOR AND EXTERIOR. CORROSION RESISTANT MANHOLES DO NOT REQUIRE ANY COATINGS.

LATEST EDITIONS.

2. ALL STRUCTURAL CONCRETE SHALL OBTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 5,000 PSI. FOR PRECAST OR CAST IN PLACE GRADE 60. ALL REINFORCING BARS ARE TO BE HOT DIP GALVANIZED

DIAMETERS. ALL REINFORCING BARS SHALL BE CONTINUOUS AROUND

7.1 CONCRETE CEMENT TYPE II. FLY ASH PERMITTED.

7.3 CONCRETE SHALL BE AIR-ENTRAINED TO 6 PERCENT

7.5 ALL CONCRETE PLACEMENT WILL FOLLOW CURRENT ACI STANDARDS.

DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315. PLACING OF BARS SHALL CONFORM TO THE LATEST CRSI RECOMMENDED

SANITARY PIPING:

3. NORMAL PVC PIPE SHALL BE SDR 35, "GREEN."

Daniel W. Busch

PHASE 1A BASS PRO

**SAYREVILLE SEAPORT** 

LOT 7

OLLIERS ENGINEERING & DESIGN, INC.

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION

RELINER STAINLESS STEEL **GRADE 316 GROUTED** ANCHOR BOLT

8" INFLOW DROP BOWL

INC. MODEL #B8DB.

<del>---</del>24.0" <del>----</del>

NOTES: I. DROP PIPE MATCHES INFLOW PIPE DIAMETER.

AND SOVEREIGN CONSULTING, INC. THESE PLANS SHALL BE REVIEWED

ACCURACY.

MOISTURE CONDITIONS.

iii. ALL JOINTS AND GASKETS WILL NEED TO BE SELLECTED

b) CONCRETE MIX DESIGNS MUST OBSERVE REQUIREMENTS UNDER

7. NORMAL CONCRETE MANHOLE COATINGS WILL BE SHERMAN-WILLIAMS,

MATERIAL SPECIFICATIONS: 1. GRANULAR FILLS:

GRANULAR FILL

30-85

ARE TO BE USED.

3. DRAINAGE-BEDDING LAYER:

DRAINAGE-BEDDING LAYER

NEARBY STRUCTURES AND PRAXAIR LINES.

**NEW JERSEY** 

of

COMPRESSIVE STRENGTH OF 5000 P.S.I.

3. APPROVED BACKFILL COMPACTED AS PER SPECIFICATION. 5. GROUNDWATER SHALL BE CONTROLLED BY CONTRACTOR TO ACHIEVE A STABLE SUBGRADE DURING EXCAVATION. NOT TO SCALE

TOP VIEW

REQUIRED. THE SITE HAS DOCUMENTED RADIOACTIVE MATERIAL AND CONTAMINATED SURFACE AND SUBSURFACE SOIL. SEPARATE HEALTH

CONTRACTOR SHALL COORDINATE PROPOSED STAGING AREA

2. BACKFILL SHALL BE PLACED IN 12-INCH MAXIMUM LOOSE LIFTS AND

4. PROPOSED CORROSION RESISTANT MANHOLES SHALL BE POLYMER

BE PROVIDED.

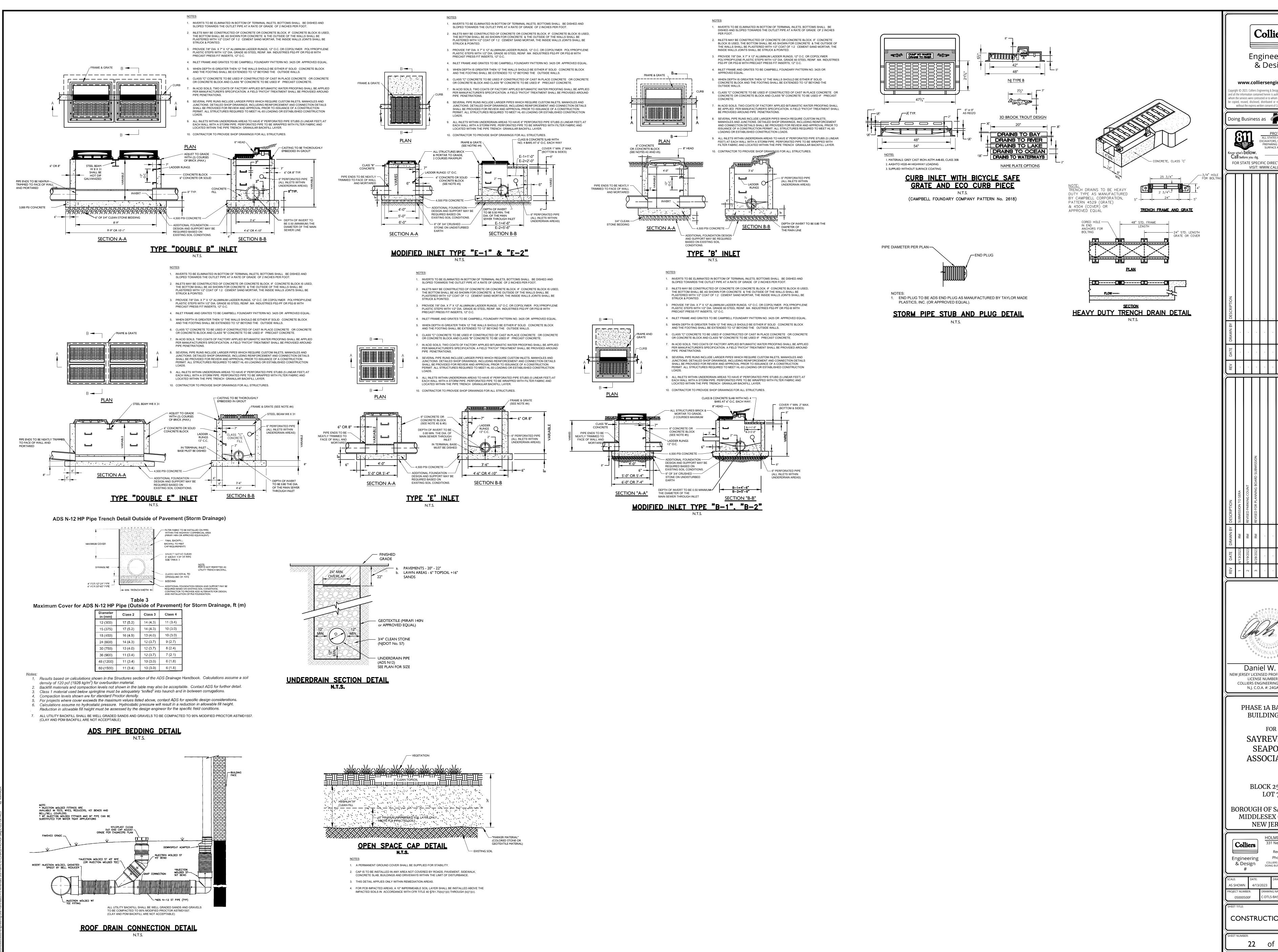
BE SUBMITTED FOR REVIEW AND APPROVAL BY THE BOROUGH ENGINEER AS

CONCRETE USING MICROWAVE OVEN DRYING." ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND SUPPORTED

2. C900 PVC PIPE SHALL BE DR18, "GREEN."

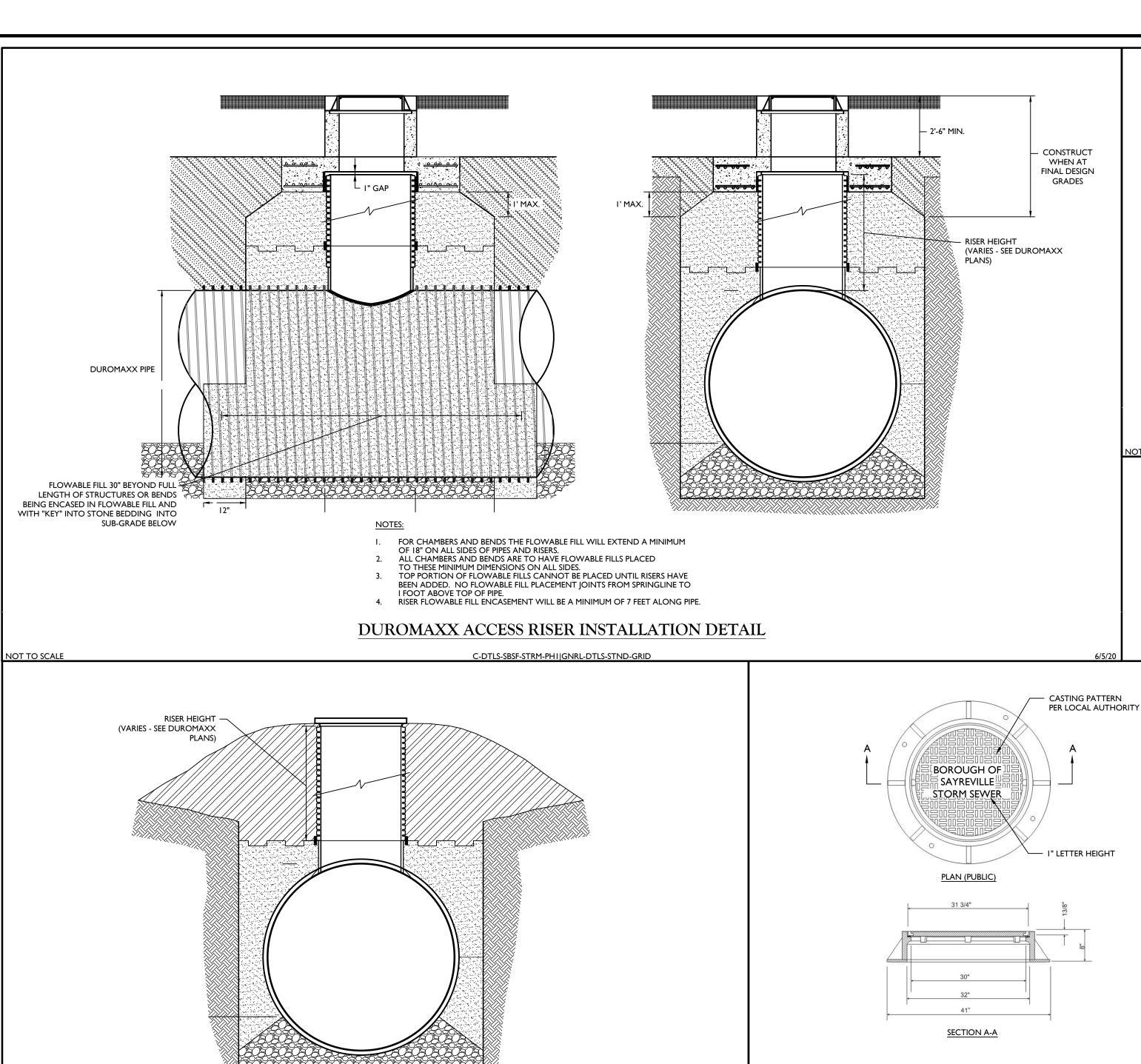
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CONSTRUCTION DETAILS



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NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION



I. LIVE LOADS ARE TO KEPT A MINIMUM OF 10 FEET FROM RISERS UNTIL FLOWABLE

LL AND/OR REINFORCED CONCRETE COLLARS AND FINAL GRADES ARE

BEEN ADDED. NO FLOWABLE FILL PLACEMENT JOINTS FROM SPRINGLINE TO

TOP PORTION OF FLOWABLE FILLS CANNOT BE PLACED UNTIL RISERS HAVE

3. RISER FLOWABLE FILL ENCASEMENT WILL BE A MINIMUM OF 7 FEET ALONG PIPE.

TEMPORARY FILL DETAIL AT RISERS

C-DTLS-SBSF-STRM-PH1|GNRL-DTLS-STND-GRID

PIPE BACKFILL DETAIL

C-DTLS-SBSF-STRM-PHIJGNRL-DTLS-STND-GRID

I FOOT ABOVE TOP OF PIPE

MINIMUM DISTANCE TO -

ENSURE COMPACTION OR BACKFILL

NOT TO SCALE

MATERIAL BELOW PIPE SPRINGLINE.

# **RIVERTON** STORM SEWER > PLAN (PRIVATE)

- CASTING PATTERN

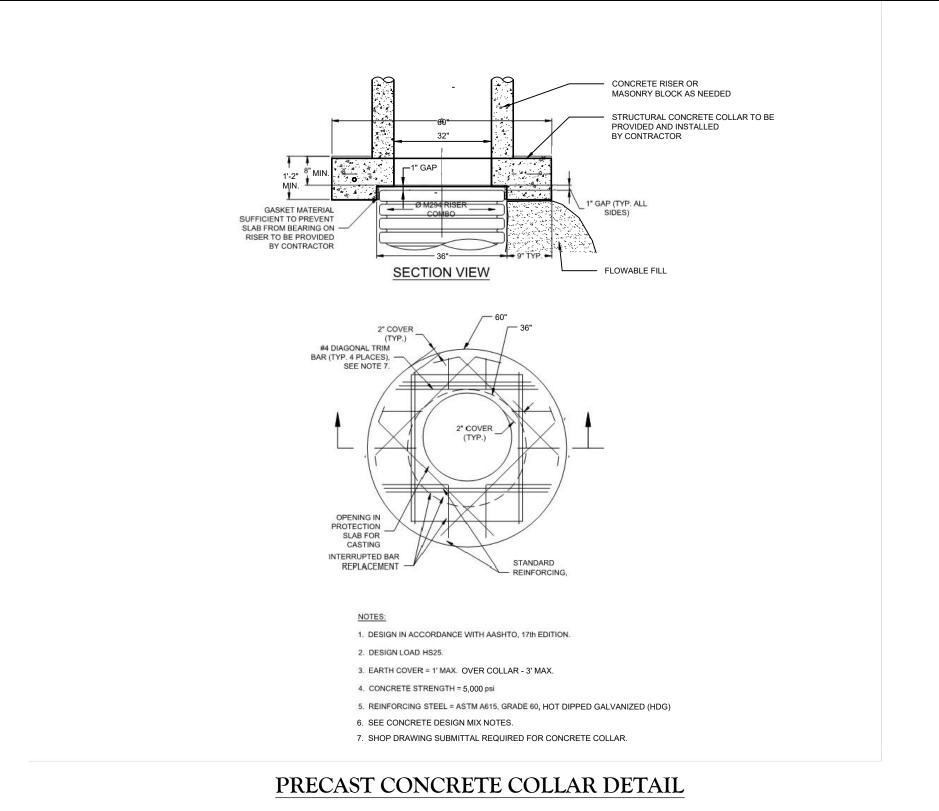
PER LOCAL AUTHORITY

- . MANHOLE FRAME AND COVER SHALL BE CAMPBELL FOUNDRY PATTERN # 1012B WITH FLOW-SEAL COVER OR APPROVED EQUAL OR AS OTHERWISE REQUIRED BY JURISDICTIONAL AUTHORITY.
- 2. MANHOLE FRAME AND COVER TO BE HEAVY DUTY, CONFORMING TO ASTM SPECIFICATION A-48 CLASS 30-B.
- LETTER HEIGHT SHALL BE I INCH.

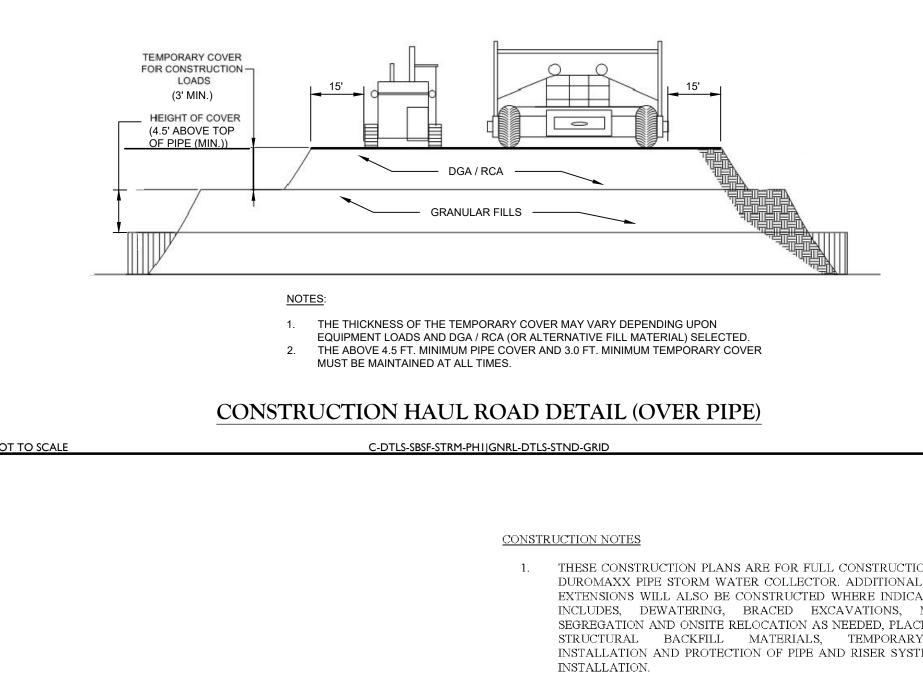
6/5/20 NOT TO SCALE

4. STORM SEWER MANHOLE/RISER COVERS LOCATED IN AREAS DEDICATED TO THE BOROUGH SHALL INDICATE "BOROUGH OF SAYREVILLE STORM SEWER". STORM SEWER MANHOLE/RISER COVERS LOCATED IN AREAS NOT DEDICATED TO THE BOROUGH SHALL INDICATE "RIVERTON STORM SEWER". REFER TO THE UTILITIES PLAN SHEETS FOR DESIGNATION OF PUBLIC AND PRIVATE STORMWATER MANHOLES AND RISERS. STORMWATER MANHOLES AND RISERS.

#### STORM MANHOLE FRAME AND COVER DETAIL



C-DTLS-SBSF-STRM-PHIJGNRL-DTLS-STND-GRID



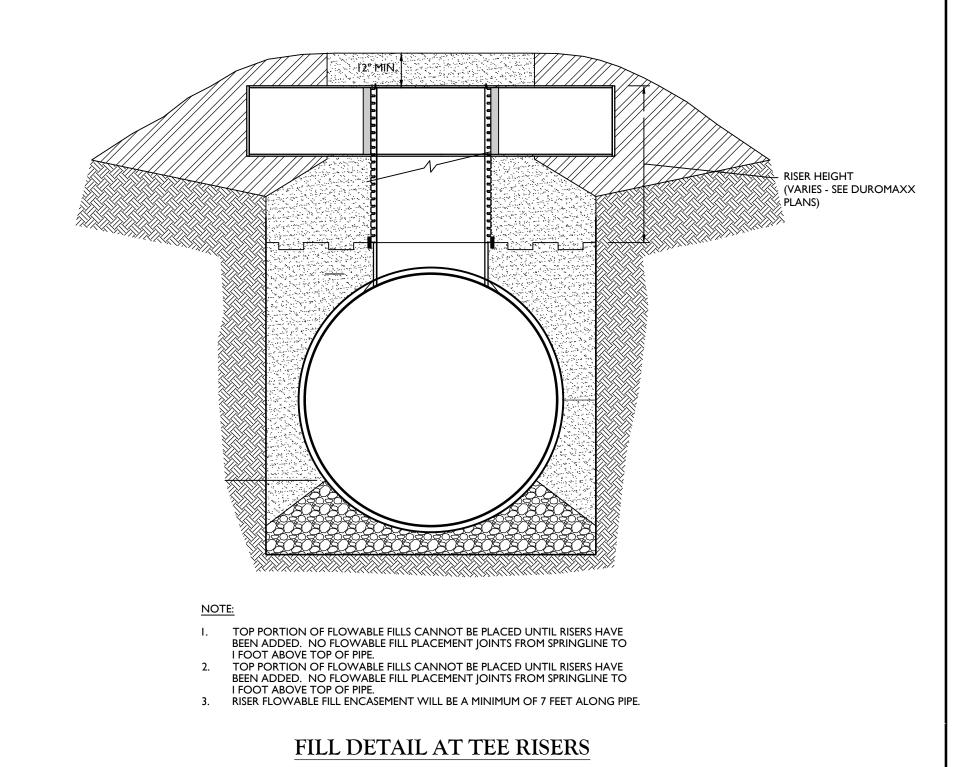
- 1. THESE CONSTRUCTION PLANS ARE FOR FULL CONSTRUCTION OF TH DUROMAXX PIPE STORM WATER COLLECTOR. ADDITIONAL ADS PIPE EXTENSIONS WILL ALSO BE CONSTRUCTED WHERE INDICATED. THIS INCLUDES, DEWATERING, BRACED EXCAVATIONS, MATERIAL SEGREGATION AND ONSITE RELOCATION AS NEEDED, PLACEMENT OF STRUCTURAL BACKFILL MATERIALS, TEMPORARY RISE INSTALLATION AND PROTECTION OF PIPE AND RISER SYSTEM AFTER
- 2. CONTRACTOR TO PROVIDE A DETAILED CONSTRUCTION SEQUENCE FOR REVIEW AND APPROVAL.
- ALL SESC MEASURES ARE TO BE MAINTAINED BY THE CONTRACTOR AT ALL TIMES. THIS INCLUDES RELOCATING THE SESC MEASURES AS PIPE INSTALLATION ADVANCES. SITE REMEDIATION SESC PLAN DETAILS SHALL APPLY.
- THE CONTRACTOR SHALL INSTALL ALL TEMPORARY SHORING AND BRACING REQUIRED FOR THE INSTALLATION OF THE STORM SEWER LINES INCLUDING PLUMBNESS, STRUCTURAL STABILITY AND SAFETY. BRACING AND SHORING AND SEQUENCES OF SUCH WORK SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND HIS/HER LICENSED ENGINEER REGISTERED IN THE STATE OF NEW JERSEY AND ALL SUBMITTALS SHALL BEAR THE ENGINEER'S SEAL AND SIGNATURE.
- A SHOP DRAWING DESIGN SUBMITTAL WILL BE REOUIRED FOR TEMPORAY SUPPORT STRUCTURES AND WILL NEED TO MEET OSHA REQUIREMENTS. THE SHOP DRAWINGS ARE TO BE REVIEWED AND APPROVED BY THE SITE CONSTRUCTION MANAGER. THE TEMPORARY EXCAVATION SUPPORT WILL NEED TO BE DESIGNED FOR THE FOLLOWING MINIMUM DESIGN CRITERIA:
- A. SOIL PARAMETERS: EXISTING FILLS:
  - SOIL UNIT WEIGHT = 120 PCF SOIL FRICTION ANGLE = 28 DEGREES
  - POORLY GRADED SANDS & GRAVELS SOIL UNIT WEIGHT = 128 PCF SOIL FRICTION ANGLE = 32 DEGREES
- CLAY AND SANDS: SOIL UNIT WEIGHT = 120 PCF COHESION = 400 PSF
- B. SURCHARGE LOADS:
- CONTRACTOR SHALL EVALUATE AND DESIGN THE TEMPORARY EXCAVATION SUPPORT FOR SURCHARGE LOADS BASED UPON THEIR MEANS AND METHODS.
- 6. EXCAVATION AND BACKFILL WILL BE STAGED AS PIPE, CHAMBER AND RISER SECTIONS ARE PLACED AND BACKFILLED DEWATERING EFFORT MAY BE REDUCED AS BACKFILL PROCEEDS. CALCULATIONS WILL NEED TO BE PROVIDED TO SUPPORT REDUCING DEWATERING AS BACKFILL PROCEEDS TO ENSURE EXCESSIVE UPLIFT FORCES DO NOT OCCUR ON THE PIPE AND STRUCTURES.
- CONTRACTOR'S SEQUENCE OF CONSTRUCTION SHALL MINIMIZE THE AMOUNT OF DEWATERING REQUIRED. ALL GROUNDWATER GENERATED DURING DEWATERING OPERATIONS SHALL BE PUMPED TO THE TEMPORARY HOLDING BASIN UNLESS OTHERWISE DIRECTED BY THE SITE DEVELOPER AND THE LSRP.
- MASER CONSULTING HAS PERFORMED NO ENVIRONMENTAL WORK FOR THIS PROPERTY AND THIS PLAN IS NOT DEPICTING ENVIRONMENTAL CONDITIONS OR A CERTIFICATION/WARRANTY FOR THE ADEQUACY OF THE PROPOSED REMEDIATION TREATMENTS, CONTROLS AND/OR REMEDIES, WHICH ARE BEING CONSTRUCTED. AREAS OF CONTAMINATION DEPICTED WITHIN THESE PLANS ARE APPROXIMATE AND THE CONTRACTOR SHALL CONFIRM THE EXACT LOCATIONS IN THE FIELD WITH ROUX ASSOCIATES, INC. (SITE ENVIRONMENTAL CONSULTANT) AND SOVEREIGN CONSULTING, INC. (SITE RADIALOGICAL CONSULTANT) PRIOR TO ANY EXCAVATION OR MOBILIZATION.
- 9. THE CONTRACTOR SHALL BE FAMILIAR WITH THE REMEDIAL ACTION WORK PLANS FOR THE SITE AND APPLICABLE ENVIRONMENTAL
- 10. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR DISTURBANCE WITHIN ANY AOC, BOTH CONVENTIONAL AND RADIOLOGICAL WHICH IS REQUIRED AS PART OF THE CONSTRUCTION SHOWN HEREON.
- 11. A NEW SOIL CONSERVATION DISTRICT PERMIT WILL BE OBTAINED BY THE APPLICANT FOR THE PROPOSED CONSTRUCTION SHOWN HEREON. THE CONTRACTOR WILL BE RESPONSIBLE TO OBTAIN ALL OTHER PERMITS REQUIRED FROM ANY AGENCY.
- THE NJDEP, SOIL CONSERVATION DISTRICT AND/OR BOROUGH REQUIRED FOR ANY DEWATERING. 13. CONTRACTOR IS RESPONSIBLE FOR CONTACTING AND COORDINATING

12. THE SITE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL PERMITS FROM

- WITH THE OWNER AND OPERATOR (PRAXAIR) OF THE ACTIVE HIGH PRESSURE GAS PIPELINES WHICH RUN THROUGH THE SITE AND WITHIN THE AREA OF WORK. CONTRACTOR IS AWARE OF EXISTING PRAXAIR PIPELINE CONFLICTS AND WILL COORDINATE WITH SITE DEVELOPER AND PRAXAIR.
- MATERIAL OR WATER IS DISCHARGED FROM THE SITE, INCLUDING AS A RESULT OF CONSTRUCTION ACTIVITIES, STORM EVENTS, TIDAL EVENTS,

14. CONTRACTOR IS RESPONSIBLE TO ENSURE NO CONTAMINATED

- 15. THE CONTRACTOR IS RESPONSIBLE FOR PROJECT SAFETY, INCLUDING PROVISION OF ALL APPROPRIATE SAFETY DEVICES AND TRAINING REQUIRED. THE SITE HAS DOCUMENTED RADIOACTIVE MATERIAL AND CONTAMINATED SURFACE AND SUBSURFACE SOIL. SEPARATE HEALTH AND SAFETY PLANS HAVE BEEN PREPARED BY ROUX ASSOCIATES, INC. AND SOVEREIGN CONSULTING, INC. THESE PLANS SHALL BE REVIEWED AND IMPLEMENTED BY THE CONTRACTOR AT ALL TIMES.
- 16. PURSUANT TO THE "ONE CALL" LAW. CONTRACTOR SHALL CALL 1-800-272-1000 OR 811 PRIOR TO ANY EXCAVATION TO REQUEST A MARKOUT OF UNDERGROUND UTILITIES.
- 17. MANY FACTORS WILL AFFECT THE FINAL EARTHWORK RESULTS. THESE FACTORS MAY INCLUDE BUT ARE NOT LIMITED TO, WEATHER CONDITIONS DURING CONSTRUCTION, EARTH MOVING EQUIPMENT USED, EXPERIENCE OF EQUIPMENT OPERATORS AND COMPACTION ACCURACY.
- 18. CONTRACTOR SHALL COORDINATE PROPOSED STAGING AREA CONSTRUCTION AND ANY ACCESS ROAD PREPARATION NEEDS WITH SOVEREIGN DUE TO RADIOLOGICAL AREAS BEING TRAVERSED. CONTRACTOR SHALL INCLUDE COSTS FOR HAUL ROADS AND ADDITIONAL SESC MEASURES FOR THEIR STAGING AREA. SESC NEEDS ARE TO BE COORDINATED WITH THE SITE ENGINEER AND DEVELOPER.
- 19. THE CONTRACTOR IS TO ANTICIPATE CONSTRUCTING UP TO TWO (2) CONSTRUCTION HAUL ROAD DETAIL (OVER PIPE) METHODS. CONTRACTOR TO COORDINATE LOCATIONS WITH PROJECT DEVELOPER.
- 20. CONTRACTOR TO COORDINATE WITH DUROMAXX AND ADS VENDORS REGARDING TEES, STUBS AND CAP CONNECTION NEEDS. ALL JOINTS ARE TO BE WATER-TIGHT.
- 21. THE STORM MAIN WORK ALONG SOUTH AVENUE SHALL BE COORDINATED WITH THE SANITARY SEWER INSTALLATION FOR CONCURRENT INSTALLATION.



C-DTLS-SBSF-STRM-PH1IGNRL-DTLS-STND-GRID

1. DUROMAXX PIPING

PIPE MATERIAL SPECIFICATIONS

A. DUROMAXX IS A REINFORCED POLYETHYLENE PIPE WITH A SMOOTH WATERWAY WALL AND EXTERIOR PROFILE THAT IS REINFORCED WITH HIGH STRENGTH GALVANIZED STEEL RIBS. THE CONTINUOUS REINFORCING RIBS ARE COMPLETELY ENCASED WITHIN THE POLYETHYLENE PROFILE. DUROMAXX IS MANUFACTURED USING A HELICAL WINDING PROCESS THAT RESULTS IN A CONTINUOUSLY FUSION WELDED CIRCUMFERENTIAL LAP SEAM. THE PIPE PROFILE IS MANUFACTURED USING A HIGH-QUALITY PRESSURE-RATED THERMOPLASTIC MEETING THE REQUIREMENTS OF ASTM F2562 "STANDARD SPECIFICATION FOR STEEL REINFORCED THERMOPLASTIC RIBBED PIPE AND FITTINGS FOR NON-PRESSURE DRAINAGE AND SEWERAGE". FOR THE PURPOSE OF HYDRAULIC DESIGN, THE RECOMMENDED MANNING'S "N" VALUE SHALL BE 0.012 FOR PIPE DIAMETERS INCLUDED WITHIN THIS

SPECIFICATION. PIPE LENGTH & ALL DIMENSIONS SHOWN ARE

LATEST VERSION OF ASTM D3350 "STANDARD SPECIFICATION FOR

- SUBJECT TO MANUFACTURERS TOLERANCES OF ±1% ACCORDING TO ASTM F2562. B. VIRGIN HIGH DENSITY POLYETHYLENE PRESSURE-RATED RESINS ARE USED TO MANUFACTURE DUROMAXX PIPE. RESINS SHALL CONFORM TO THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 345464 C AS DEFINED AND DESCRIBED IN THE
- POLYETHYLENE PLASTICS PIPE AND FITTINGS MATERIALS". C. ALL FITTINGS SHALL BE FABRICATED FROM DR 32.5 HDPE PIPE. FITTINGS WILL BE PREPARED TO JOIN WITH ADS PIPE MATERIALS
- TO ENSURE WATERTIGHT JOINT PERFORMANCE OF ASTM D3212. D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL QUESTIONS ABOUT INSTALLATION ARE ADDRESSED PRIOR TO INSTALLATION.
- 2. ADS PIPING
- A. ADS PIPING IS MANUFACTURED IN ACCORDANCE WITH ASTM F2881 OR AASHTO M330 FOR PIPES UP TO 60 INCHES IN DIAMETER. FOR THE PURPOSE OF HYDRAULIC DESIGN. THE RECOMMENDED MANNING'S "N" VALUE SHALL BE 0.012 FOR PIPE DIAMETERS INCLUDED WITHIN THIS SPECIFICATION.
- B. FITTINGS SHALL CONFORM TO ASTM F2881 OR AASHTO M330. BELL AND SPIGOT CONNECTIONS SHALL UTILIZE A WELDED OR INTEGRAL BELL AND VALLEY OR INLINE GASKETS MEETING THE WATERTIGHT JOINT PERFORMANCE REQUIREMENTS OF ASTM
- C. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 AND ADS RECOMMENDED INSTALLATION GUIDELINES. FOR UP TO 60-INCH DIAMETER THE MINIMUM COVER SHALL BE 3 FT. IN SINGLE RUN APPLICATIONS. BACKFILL FOR MINIMUM COVER SITUATIONS SHALL CONSIST OF GRANULAR FILL MATERIALS APPROVED BY THE ENGINEER.

EXCAVATION AND BACKFILLING

LIFT OF 8" THICK.

- 1. ALL 4" THICK STONE BEDDING UNDER STRUCTURES AND PIPING SHALL BE FOUNDED ON FIRM, UNDISTURBED SOIL. ALL SOFT SPOTS SHALL BE EXCAVATED AND BACKFILLED WITH ACCEPTABLE FILL MATERIAL AND COMPACTED TO 95 PERCENT MODIFIED DRY PROCTOR DENSITY (ASTM D1557) PRIOR TO 3/4" STONE BEDDING PLACEMENT.
- 2. BACKFILL MATERIALS UP TO 3 FEET BELOW PAVEMENT DGA SUBGRADE AND FROM 3 FEET ABOVE PIPE INVERT ARE TO BE PLACED IN A MAXIMUM LOOSE LIFT THICKNESS OF 8 INCHES AND COMPACTED TO NO LESS THAN 90 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D1557. ACTUAL LIFT THICKNESS WILL BE DETERIMNED IN THE FIELD DEPENDING UPON MOISTURE CONDITIONS AT THE TIME OF CONSTRUCTION. ALL BACKFILL MATERIALS ARE TO MEET STANDARDS SET FORTH BY THE ENVIRONMENTAL CONSULTANT. THE UPPER 3 FEET DIRECTLY BELOW PAVEMENT DGA SUBGRADES ARE TO BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY WITH A MAXIMUM LOOSE
- 3. BACKFILL SHALL BE PLACED EVENLY ON EACH SIDE OF THE PIPE TO LIMIT UNBALANCED HORIZONTAL LOADING ON PIPE, WITH A MAXIMUM DIFFERENTIAL FILL HEIGHT OF 12 INCHES ACROSS PIPE.
- 4. BACKFILL SHALL CONSIST OF NON-EXPANSIVE, FREE-DRAINING, WELL GRADED SAND AND GRAVEL, FREE OF DEBRIS AND ORGANIC MATERIAL. ON-SITE EXCAVATED MATERIALS MAY BE SUITABLE SUBJECT TO ENGINEER 5. BACKFILL AND STRUCTURAL FILL PLACEMENT AND COMPACTION IS TO BE
- MONITORED WITH FULL-TIME OBSERVATION AND TESTING.

#### <u>CONCRETE</u>

- 1. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF ACI 318 AND "SPECIFICATIONS FOR CONCRETE BUILDINGS" ACI 301, LATEST EDITIONS. 2. ALL STRUCTURAL CONCRETE SHALL OBTAIN A MINIMUM 28 DAY
- COMPRESSIVE STRENGTH OF 5,000 PSI. FOR PRECAST OR CAST IN PLACE FLOWABLE FILL CONCRETE SHALL OBTAIN A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 750 PSI.
- 4. REINFORCING STEEL FOR CONCRETE SHALL CONFORM WITH ASTM A615, GRADE 60. ALL REINFORCING BARS ARE TO BE HOT DIP GALVANIZED
- 5. ALL REINFORCING BARS SHALL BE SPLICED A MINIMUM OF 40 BAR DIAMETERS. ALL REINFORCING BARS SHALL BE CONTINUOUS AROUND
- WELDED WIRE FABRIC (WWF) SHALL CONFORM WITH ASTM A185. WIRE FABRIC SHALL BE TIED WITH WIRE AND OVERLAPPED TWO SOUARES AT

3 IN.

- 7. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED OVER REINFORCEMENT, UNLESS OTHERWISE NOTED ON THE
- A. CONCRETE CAST AGAINST EARTH: B. CONCRETE EXPOSED TO EARTH OR WEATHER: C. CONCRETE NOT EXPOSED TO EARTH OR WEATHER: SLABS AND WALLS:

- FOLLOWING BASE MIX DESIGN REQUIREMENTS: 8.1 CONCRETE CEMENT TYPE II. FLY ASH PERMITTED
- 8.2 CONCRETE SHALL RECEIVE A SILICA FUME ADDITIVE (SIKACRET 950 DP OR EQUAL) OR PERMEABILITY REDUCING ADMIXTURE (IPANEX OR EQUAL)

8. ALL STRUCTURAL CONCRETE DESIGNS ARE TO ADDRESS THE

- 8.3 CONCRETE SHALL BE AIR-ENTRAINED TO 6 PERCENT
- 8.4 WATER-CEMENT RATIO SHALL BE 0.40 TO 0.45
- 8.5 ALL CONCRETE PLACEMENT WILL FOLLOW CURRENT AC STANDARDS. 8.6 ALL WATER-CEMENT RATIOS, FIELD AND PRE-CAST, SHALL I

ALL REINFORCING SHALL BE DETAILED, FABRICATED, AND SUPPORTED

- DETERMINED IN ACCORDANCE WITH AASHTO T318. "STANDARI METHOD OF TEST FOR WATER CONTENT OF FRESHLY MIXED CONCRETE USING MICROWAVE OVEN DRYING".
- IN FORMS AND SPACED WITH ACCESSORIES FOLLOWING THE REQUIREMENTS OF THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315.
- 10. NO ADMIXTURE SHALL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE ENGINEER. THE USE OF CALCIUM CHLORIDE IS PROHIBITED.
- ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED BY SUITABLE MEANS SUCH AS MECHANICAL VIBRATION DURING PLACEMENT AND THOROUGHLY WORKED AROUND REINFORCEMENT.
- CONCRETE SHALL BE PLACED AND PROTECTED IN ACCORDANCE WITH ACI STANDARDS UNTIL DESIGN STRENGTH IS ACHIEVED.

#### MATERIAL SPECIFICATIONS

1. GRANULAR FILLS:

THESE MATERIALS SHALL BE WELL GRADED AND MEET THE FOLLOWIN PARTICLE SIZE DISTRIBUTION:

#### GRANULAR FILL U.S. STANDARD SIEVE SIZE PERCENT FINER BY WEIGHT

2"	100
1"	80-100
3/8"	70-100
NO. 10	50-100
NO. <b>3</b> 0	30-85
NO. 60	15-65
NO. 200	5-20

- SOIL PLASTICITY IS ACCEPTABLE BUT SHOULD BE LESS THAN 6 PERCENT 2. DENSE GRADED AGGREGATES (D.G.A.):
- WHERE NEEDED, THESE MATERIALS SHALL MEET THE REQUIREMENTS PRESENTED IN THE NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007 (LATEST EDITION). RECYCLED CONCRETE AGGREGATES (R.C.A.) MAY ALSO BE ACCEPTABLE DEPENDING UPON WHERE THEY ARE TO BE USED.

B. DRAINAGE PIPE BEDDING LAYER:

THESE MATERIALS SHALL MEET THE FOLLOWING PARTICLE SIZE DISTRIBUTION FOR NJDOT NO. 57 STONE (3/4" CLEAN STONE):

#### DRAINAGE PIPE BEDDING LAYER

U.S. STANDARD SIEVE SIZE PERCENT FINER BY WEIGHT

1-1/2"	100
1"	95-100
1/2"	25-60
No. 4	0-10
No. 8	0-5

ALTERNATE MATERIAL GRADATIONS MAY BE SUBMITTED FOR ENGINEER APPROVAL, ALL MATERIAL SUBMISSIONS FOR IMPORT SHALL BE WELL GRADED, 100 PERCENT PASSING THE 2" U.S. SIEVE SIZE AND SHALL HAVE NO MORE THAN 20 PERCENT NON-PLASTIC FINES.

### SHOP DRAWINGS

- ALL DESIGN SUBMITTALS PREPARED BY MANUFACTURER AND CONTRACTOR'S ENGINEER SHALL BE REVIEWED BY THE SITE DESIGN ENGINEER OF RECORD IN ADDITION TO THE BOROUGH ENGINEER. THIS INCLUDES DUROMAXX PIPE, RISER, CHAMBER DETAILS, AND ADS
- THE PRECAST STRUCTURAL CONCRETE COLLARS ARE TO BE DESIGNED BY A CERTIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW JERSEY FOR THE CONTRACTOR. A SHOP DRAWING SUBMITTAL, CALCULATIONS, AND APPROVAL WILL BE REQUIRED. ALL DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY A CERTIFIED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW JERSEY.
- STAGING AREA PLAN FOR REVIEW OF HAUL ROAD ACCESS NEEDS AND ADDITIONAL SESC MEASURES REQUIRED, IF ANY.
- VIBRATION AND SETTLEMENT MONITORING PLAN SHALL BE PROVIDED IF SHEET PILE OR PILE INSTALLATION IS PROPOSED TO MONITOR NEARBY STRUCTURES AND PRAXAIR LINES. VIBRATION MONITORING PLAN SHALL BE PREPARED FOR ANY WORK WITHIN 50 FEET OF THE



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PHASE 1A BASS PRO BUILDING SITE

SAYREVILLE **SEAPORT** 

**ASSOCIATES** 

BLOCK 257.02

LOT 7

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY

**NEW JERSEY** HOLMDEL (Headquarters 331 Newman Springs Road Colliers

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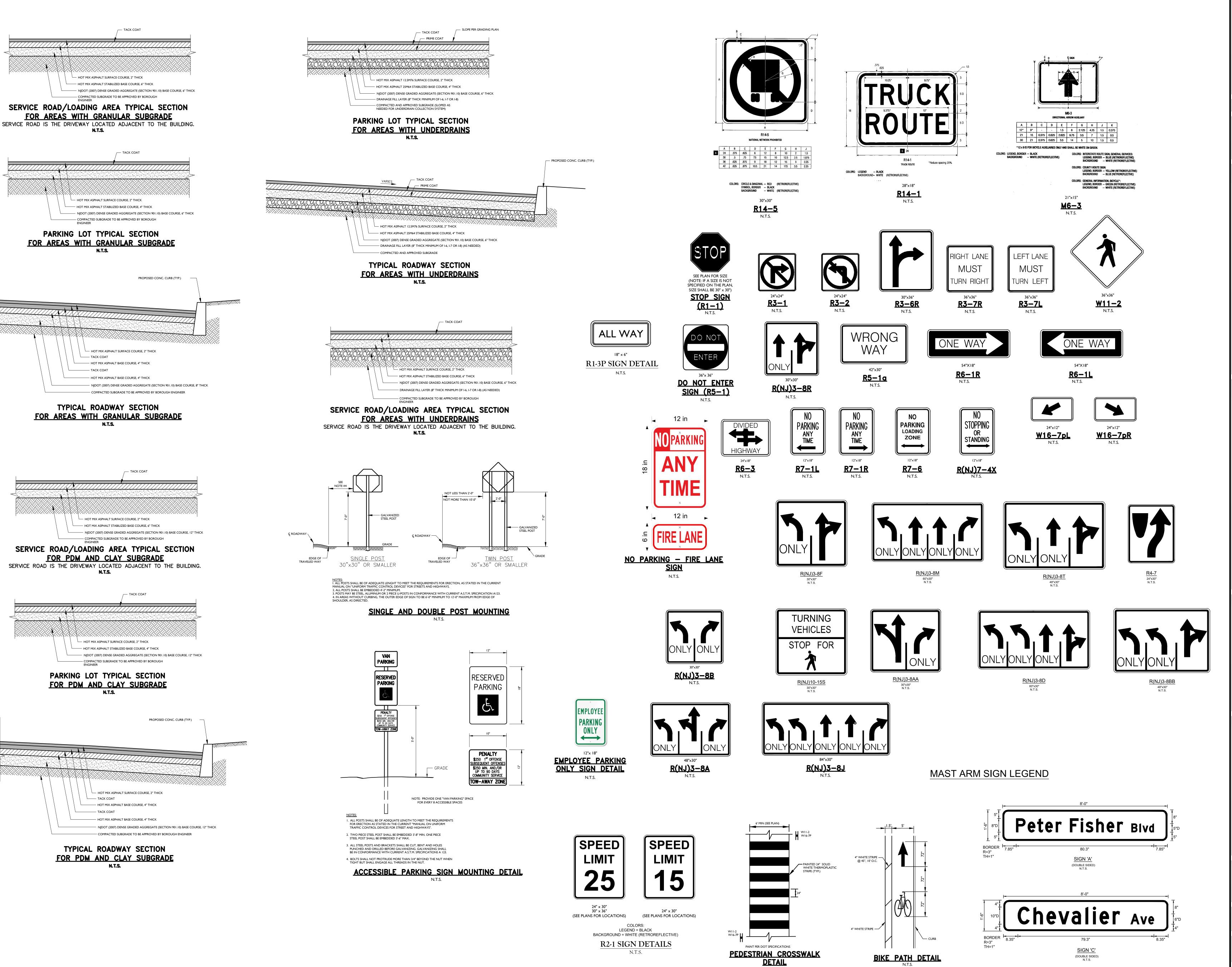
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CONSTRUCTION DETAILS

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> PHASE 1A BASS PRO **BUILDING SITE** FOR SAYREVILLE

**SEAPORT ASSOCIATES** 

BLOCK 257.02 LOT 7

MIDDLESEX COUNTY

**NEW JERSEY** 331 Newman Springs Road, Colliers Red Bank, NJ 07701

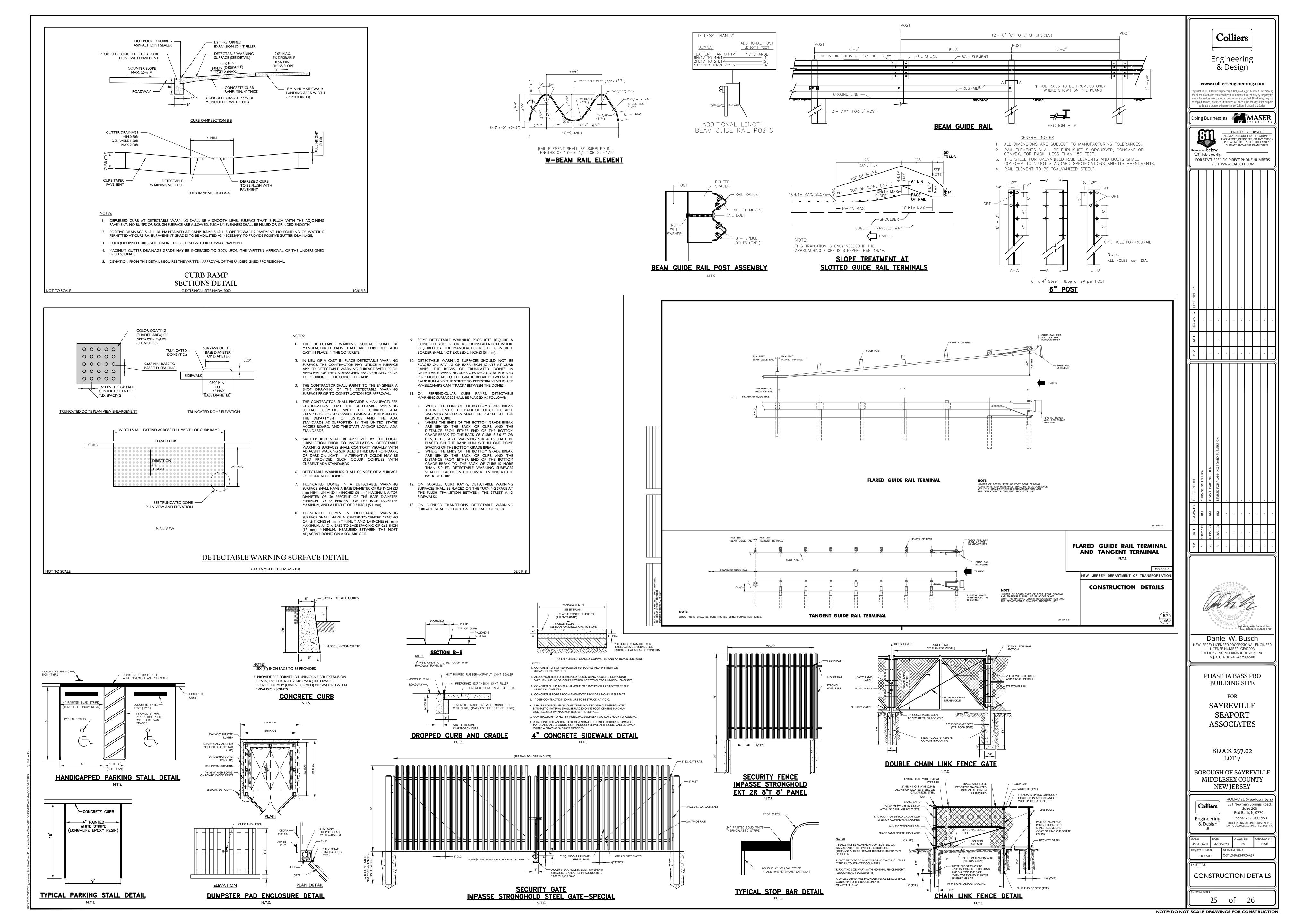
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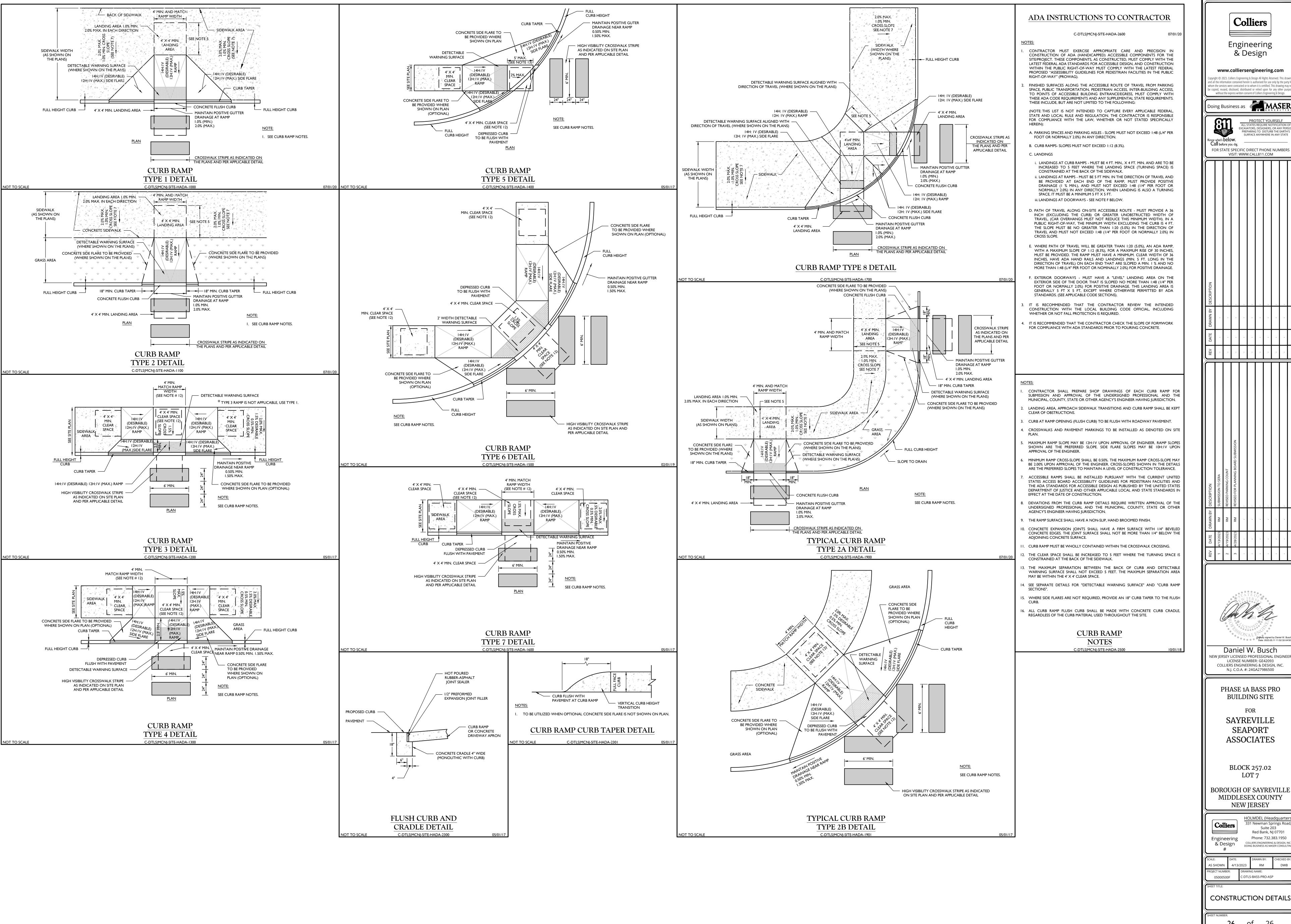
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> **BUILDING SITE** FOR SAYREVILLE **SEAPORT**

BLOCK 257.02 LOT 7

BOROUGH OF SAYREVILLE MIDDLESEX COUNTY **NEW JERSEY** 

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